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UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
FORT WAYNE DIVISION

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UNITED STATES OF AMERICA, Plaintiff v. RICHARD YOUNT, et al., Defendants STATE OF INDIANA, Plaintiff v. RICHARD YOUNT, et al, Defendants	CIVIL ACTION NO. F90-00142

APR 1991

CONSENT DECREE

90-11-3-251

DEPARTMENT OF JUSTICE
APR 30 1991
LANDS DIVISION
ENFORCEMENT RECORD 42

TABLE OF CONTENTS

I.	BACKGROUND	1
II.	JURISDICTION	8
III.	PURPOSE OF THIS DECREE	8
IV.	PARTIES BOUND	9
V.	DEFINITIONS	9
VI.	GENERAL PROVISIONS	12
VII.	PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS	15
VIII.	U.S. EPA PERIODIC REVIEW TO ASSURE PROTECTION OF HUMAN HEALTH AND ENVIRONMENT	26
IX.	ADDITIONAL WORK	27
X.	QUALITY ASSURANCE	28
XI.	ACCESS, SAMPLING, DOCUMENT AVAILABILITY	30
XII.	REPORTING REQUIREMENTS	33
XIII.	REMEDIAL PROJECT MANAGER/PROJECT COORDINATORS	35
XIV.	FORCE MAJEURE	36
XV.	DISPUTE RESOLUTION	38
XVI.	RETENTION AND AVAILABILITY OF INFORMATION	41
XVII.	REIMBURSEMENT	43
XVIII.	STIPULATED PENALTIES	45
XIX.	COVENANT NOT TO SUE	50
XX.	OTHER CLAIMS	53
XXI.	CLAIMS AGAINST THE FUND	54
XXII.	INSURANCE/FINANCIAL RESPONSIBILITY	57
XXIII.	NOTICES	58
XXIV.	CONSISTENCY WITH NATIONAL CONTINGENCY PLAN	59

XXV.	RESPONSE AUTHORITY	60
XXVI.	MODIFICATION	60
XXVII.	PUBLIC PARTICIPATION	60
XXVIII.	COMMUNITY RELATIONS	61
XXIX.	EFFECTIVE AND TERMINATION DATES	61

I.

BACKGROUND

This Consent Decree is made and entered into by and between the United States of America ("United States") on behalf of the United States Environmental Protection Agency ("U.S. EPA"); the State of Indiana ("State"); Dana Corporation, DiversiTech General, Inc., General Motors Corporation, Owens-Illinois, Inc., RCA Corporation, and Essex Group, Inc., collectively hereinafter the "Generator Defendants;" Richard Yount, hereinafter the "Owner Defendant;" and the City of Marion, Indiana, hereinafter the "City Defendant." These Defendants are collectively referred to as "Settling Defendants."

WHEREAS, the United States Environmental Protection Agency ("U.S. EPA"), pursuant to § 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), 42 U.S.C. § 9605, placed the Marion/Bragg Dump in Grant County, Indiana (the "Facility" as specifically defined in Paragraph V of this Consent Decree) on the National Priorities List, which is set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 8, 1983, 48 Fed. Reg. 40658 (1983);

WHEREAS, in response to an alleged release or a substantial threat of a release of a hazardous substance at or from the Facility, the U.S. EPA in May, 1985, authorized a Remedial

Investigation and a Feasibility Study ("RI/FS") pursuant to 40 C.F.R. 300.68 for the Facility.

WHEREAS, U.S. EPA completed a Remedial Investigation ("RI") Report and a Feasibility Study ("FS") Report on August 4, 1987;

WHEREAS, the FS Report contains a proposed plan for remedial action at the Facility;

WHEREAS, on or about August 4, 1987, U.S. EPA, pursuant to § 117 of CERCLA, 42 U.S.C. § 9617, published notice of the completion of the RI and FS reports and of the proposed plan for remedial action and provided opportunity for public comment to be submitted in writing to U.S. EPA by September 11, 1987. A public meeting was also held in the City of Marion, Indiana, on August 19, 1987;

WHEREAS, U.S. EPA, pursuant to § 117 of CERCLA, 42 U.S.C. § 9617, has kept a transcript of the public meeting and has made this transcript available to the public;

WHEREAS, on August 7, 1987, U.S. EPA, pursuant to § 122 of CERCLA, 42 U.S.C. § 9622, notified certain parties that the U.S. EPA determined each party to be a potentially responsible party ("PRP") regarding the proposed remedial action at the Facility;

WHEREAS, in accordance with § 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), U.S. EPA notified the State of Indiana on August 7, 1987 of potential negotiations with PRPs regarding the scope of the remedial design and remedial action for the Facility, and U.S. EPA has provided the State with an

opportunity to participate in such negotiations and be a party to any settlement;

WHEREAS, pursuant to § 122(j) of CERCLA, 42 U.S.C. § 9622(j), U.S. EPA notified the Federal natural resource trustee of negotiations with PRPs on the subject of addressing the release or threatened release of hazardous substances at the Facility, and U.S. EPA has encouraged the participation of the Federal natural resource trustee in such negotiations;

WHEREAS, certain persons have provided comments on U.S. EPA's proposed plan for remedial action, and U.S. EPA provided a summary of comment and responses thereto, as set forth in the Responsiveness Summary attached hereto as a part of the Record of Decision ("ROD"), which is attached as Appendix A;

WHEREAS, considering the proposed plan for remedial action and the public comments received, U.S. EPA has reached a decision on an interim remedial action plan, and the defendant signatories to this Consent Decree ("Settling Defendants," as defined in Paragraph V of this Consent Decree) are in agreement with such plan;

WHEREAS, U.S. EPA's decision on the interim remedial action plan is embodied in a document called a Record of Decision ("ROD"), to which the State has given its concurrence, and which includes a discussion of U.S. EPA's reasons for the interim plan, a response to comments, criticisms and new data submitted during the public comment period for the RI/FS and

proposed plan, and any significant changes (and the reasons for such changes) in the proposed remedial action;

WHEREAS, the remedial action to be undertaken pursuant to this Consent Decree may not be the final action required for this Facility. The Remedial Action Plan ("RAP") provides for additional studies to evaluate the effectiveness of the remedy and to determine if further remedial work will be required;

WHEREAS, U.S. EPA may, upon conclusion of the studies relating to the effectiveness of the interim remedial action, issue another ROD establishing the final remedial actions;

WHEREAS, U.S. EPA, pursuant to § 117(b) of CERCLA, 42 U.S.C. § 6917(b), has provided notice of adoption of the interim remedial action in the form of the ROD, including notice of the ROD's availability to the public for review at the local community repository located at the Marion Library, Marion, Indiana;

WHEREAS, pursuant to § 121(d)(1), 42 U.S.C. § 9621(d)(1), U.S. EPA, the State, and Settling Defendants ("the Parties") believe that the interim remedial action adopted by U.S. EPA will attain a degree of cleanup of any hazardous substances, pollutants and contaminants which assures protection of human health and the environment;

WHEREAS, the Parties believe the interim remedial action adopted by U.S. EPA will provide a level or standard of control for any hazardous substances, pollutants, or contaminants that are or may be released from the Facility consistent with

legally applicable or relevant and appropriate state and federal standards, requirements, criteria, or limitations, in accordance with § 121(d)(2) of CERCLA, 42 U.S.C. § 9621(d)(2);

WHEREAS, the Parties believe that the remedial action plan is in accordance with § 121 of CERCLA, 42 U.S.C. § 9621 and consistent with the National Contingency Plan ("NCP"), 40 C.F.R. Part 300;

WHEREAS, the United States on behalf of U.S. EPA filed a complaint ("Complaint") for response, removal and remedial activities pursuant to §§ 104, 106 and 107 of CERCLA, 42 U.S.C. §§ 9604, 9606 and 9607, as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613 (1986), seeking, among other things, the reimbursement of all funds expended by the United States not inconsistent with the National Contingency Plan in connection with the Facility, and injunctive relief requiring the Defendants to perform the Interim Remedial Action;

WHEREAS, the State also filed a Complaint for response, removal and remedial activities not inconsistent with § 107 of CERCLA, 42 U.S.C. § 9607, and IC 13-1 and 13-7 and applicable state common law, seeking, among other things, reimbursement of all funds expended by the State for response activities in connection with the Facility;

WHEREAS, the Settling Defendants deny responsibility for the disposal of hazardous substances at the Facility and deny any legal or equitable liability under any statute, regulation,

ordinance or common law for any response costs or damages caused by storage, treatment, handling or disposal activities or actual or threatened release of hazardous substances, if any, disposed of by the Settling Defendants to, through, or at the Facility;

WHEREAS, the Settling Defendants, nevertheless, desire to settle the claim made against them by the Plaintiffs;

WHEREAS, the Settling Defendants have agreed among themselves that Generator Defendants will design and construct the interim remedial action adopted by U.S. EPA in the ROD, as set forth in Appendix A to this Consent Decree, and as detailed in the Remedial Action Plan ("RAP") attached to this Consent Decree as Appendix B, both of which Appendices are incorporated herein as part of this Consent Decree by reference as if fully set forth herein;

WHEREAS, Owner Defendant agrees to grant the United States, the State of Indiana, the City of Marion and Generator Defendants and their representatives, contractors and consultants access to the Marion/Bragg Site to perform, monitor and maintain performance of the interim remedial action, and to place restrictions on future use of the Facility;

WHEREAS, the City Defendant, in an agreement with Generator Defendants, has agreed to prepare the operation and maintenance plan for the Site and to maintain the fencing, cap and flood protection measures required under the Consent Decree and the RAP in accordance with the operation and maintenance plan;

WHEREAS, the Settling Defendants, among themselves, have agreed that the Generator Defendants will carry out all monitoring, sampling and analyses as required under the Consent Decree and the RAP and the Remedial Design/Remedial Action ("RD/RA") Work Plan;

WHEREAS, the Settling Defendants have entered into Settlement Agreements among themselves for work to be performed under this Consent Decree and have agreed that these Agreements are to be made a part of this Decree and attached hereto as Appendices H and I;

WHEREAS, U.S. EPA has determined that the work required under the Consent Decree, if performed in accordance with the requirements of this Decree including the ROD and the RAP, will be done properly by Settling Defendants, and that Settling Defendants are qualified to implement the remedial action plan contained in the ROD. Settling Defendants agree that their responsibilities for performance of the terms of this Decree are joint and several, and that failure of any of them to perform any individual responsibilities undertaken between themselves does not vitiate their collective responsibilities under the Decree;

WHEREAS, the Parties recognize, and intend to further hereby, the public interest in the expedition of the cleanup of the Facility and in avoiding prolonged and complicated litigation among the Parties;

WHEREAS, in consideration of, and in exchange for, the promises and the mutual undertakings and covenants herein, and intending to be bound legally hereby, the Plaintiffs and the Settling Defendants, by their authorized representatives, have agreed to the entry of this Consent Decree as a final and enforceable Order of this Court.

NOW, THEREFORE, before the taking of any testimony and upon the consent of the parties hereto, it is hereby Ordered, Adjudged and Decreed:

II.

JURISDICTION

This Court has jurisdiction over the subject matter herein, and over the parties consenting hereto, pursuant to 42 U.S.C. § 9601 et seq., and 28 U.S.C. §§ 1331 and 1345. Settling Defendants shall not challenge this Court's jurisdiction to enter and enforce this Consent Decree.

III.

PURPOSE OF THIS DECREE

The parties agree that the purpose of this Consent Decree is to insure performance by the Settling Defendants of all work necessary to effectuate the interim remedial actions at the Marion/Bragg facility identified as appropriate in the Record of Decision and in the Remedial Action Plan attached hereto.

IV.

PARTIES BOUND

A. This Consent Decree applies to and is binding upon the undersigned parties and their successors and assigns. The undersigned representative of each Settling Defendant, the Attorney General of Indiana, and the Assistant Attorney General of the United States certify that he or she is fully authorized by the party or parties whom she or he represents to enter into the terms and conditions of the Consent Decree and to execute and legally bind that party to it. Settling Defendants shall provide a copy of this Consent Decree to the principal contractor or contractors hired to perform the work required by this Consent Decree and shall require that contractor to provide a copy thereof to any subcontractor retained to perform any part of the work required by this Consent Decree.

B. The Settlement Agreements between the Generator Defendants and the City of Marion and Richard Yount, which are attached to this Consent Decree as Appendices H and I, respectively, as between the parties thereto, are enforceable as a part of this Consent Decree.

V.

DEFINITIONS

Whenever the following terms are used in this Consent Decree and the Appendices attached hereto, the following definitions apply:

A. "Architect" or "Engineer" means the company or companies retained by the Settling Defendants to prepare the construction plans and specifications necessary to accomplish the remedial action described in the ROD and the RAP, which are attached to this Consent Decree as Appendices A and B, respectively.

B. "City Defendant" means the City of Marion, Indiana.

C. "Contractor" means the company or companies retained by the Settling Defendants to undertake the Work required by this Consent Decree. Each contractor and subcontractor shall be qualified to do those portions of the Work for which it is retained.

D. "Facility" means the "facility" as that term is defined at § 101(9) of CERCLA, 42 U.S.C. § 9601(9), which consists of a site located within the limits of Grant County, Indiana and as shown on the map attached as Appendix C.

E. "Future liability" refers to liability arising after U.S. EPA's Certification of Completion is issued pursuant to Paragraph XXIX.

F. "Generator Defendants" means Dana Corporation, General Motors Corporation, DiversiTech General Corporation, Owens-Illinois, Inc., RCA Corporation, and Essex Group, Inc.

G. "Hazardous substance" shall have the meaning provided in § 101(14) of CERCLA, 42 U.S.C. § 9601(14).

H. "IDEM" means the Indiana Department of Environmental Management.

I. "National Contingency Plan" shall be used as that term is used in § 105 of CERCLA, 42 U.S.C. § 9605.

J. "Owner Defendant" means Richard Yount.

K. "Parties" means the United States of America, the State of Indiana and the Settling Defendants.

L. "Plaintiffs" means the United States of America and the State of Indiana, and their agencies and departments.

M. "Remedial Action Plan" or "RAP" shall mean the plan for implementation of the interim remedial action determined by the U.S. EPA to be necessary and appropriate through its Record of Decision, including remedial design, remedial action and operation and maintenance of the remedial action at the Facility, which is attached hereto as Appendix B and incorporated herein by reference.

N. "Response Costs" mean any costs incurred by the United States, the State of Indiana and Generator Defendants pursuant to 42 U.S.C. § 9601 et seq., in connection with the Facility.

O. "Settling Defendants" shall mean the City Defendant, the Owner Defendant, and the Generator Defendants.

P. "State" means the State of Indiana.

Q. "United States" means the United States of America.

R. "U.S. EPA" means the United States Environmental Protection Agency.

S. "U.S. DOJ" means the United States Department of Justice.

T. "Waste Material" means any hazardous substance, as defined by 42 U.S.C. § 9601(14) and any associated contaminated material, or pollutant or contaminant as defined by 42 U.S.C. § 9601(33).

U. "Work" means the design, construction and implementation, in accordance with Paragraphs VII and VIII hereof, of the tasks described in the Remedial Action Plan, and any schedules or plans required to be submitted pursuant thereto; however, "Work" shall not include operation and maintenance activities at the facility which extend beyond termination of this Consent Decree pursuant to Paragraph XXIX below.

VI.

GENERAL PROVISIONS

A. Commitment of Plaintiffs and Settling Defendants:

1. Settling Defendants agree to finance and perform the Work as defined in Paragraph V.U., at their expense except for claims made and paid pursuant to Paragraph XXI.

2. The Work as defined in Paragraph V.U. shall be completed in accordance with the standards and specifications and within the time periods and in accordance with schedules established in Paragraph VII and in the RAP.

B. Permits and Approvals:

1. Except as exempted by § 121(e)(1) of CERCLA, 42 U.S.C. § 9621(e)(1), all activities undertaken by the Settling Defendants pursuant to this Consent Decree shall be undertaken in accordance with the requirements of all applicable local,

state, and federal laws, regulations and permits. The United States and the State have determined that the obligations and procedures authorized under this Consent Decree are consistent with the authority of the United States and the State under applicable law to establish appropriate remedial measures for the Facility.

2. The United States and the State have determined that no federal, state, or local permits are required for work conducted entirely on the Facility ("on-site") as described in the Remedial Action Plan. Settling Defendants shall obtain all permits or approvals necessary for off-site work under federal, state, or local laws and shall submit timely applications and requests for any such permits and approvals.

3. The standards and provisions of Paragraph XIV describing "Force Majeure" shall govern delays in obtaining permits required for the Work and also the denial of any such permits.

4. Settling Defendants shall include in all contracts or subcontracts entered into for work required under this Consent Decree provisions stating that such contractors or subcontractors, including their agents and employees, shall perform all activities required by such contracts or subcontracts in compliance with all applicable laws and regulations and with the terms of the Consent Decree. This Consent Decree is not, nor shall it act as, nor is it intended

by the Parties to be, a permit issued pursuant to any federal or state statute or regulation.

C. Conveyance of the Facility:

1. Within thirty days of approval by the Court of this Decree, Richard Yount as a Settling Defendant and owner of the Facility ("Owner Defendant") shall record a copy of this Decree with the Recorder's Office, Grant County, State of Indiana, referenced to the Facility. The Owner Defendant shall also record a restrictive covenant, in the form attached hereto as Appendix D, barring future use of the property in any manner that may threaten the effectiveness, protectiveness and integrity of the Work performed under this Consent Decree.

2. The Facility as described herein may be freely alienated provided that at least sixty days prior to the date of such alienation, the Owner Defendant notifies Plaintiffs of such proposed alienation, the name of the grantee, and a description of the Owner Defendant's obligations, if any, to be performed by such grantee. In the event of such alienation, all of Owner and Generator Defendants' obligations pursuant to this Decree shall continue to be met by Owner and Generator Defendants or, subject to U.S. EPA approval, by Settling Defendants and the grantee.

3. Any deed, title or other instrument of conveyance shall contain a notice that the Facility is the subject of this Consent Decree, setting forth the style of the case, case number, and Court having jurisdiction herein, and further

containing notice of any and all restrictive covenants or other encumbrances barring or limiting access to or use of the Facility during and after cleanup.

VII.

PERFORMANCE OF THE WORK
BY SETTLING DEFENDANTS

A. All Work to be performed by Settling Defendants pursuant to this Consent Decree shall be under the direction and supervision of a qualified professional architect or engineer. Prior to the initiation of remedial design work for the Facility, the Settling Defendants shall notify U.S. EPA and the State, in writing, of the name, title, and qualifications of any engineer, architect, contractor or major subcontractor proposed to be used in carrying out the remedial design work pursuant to this Consent Decree. Selection of any such architect(s), engineer(s), contractor(s) or subcontractor(s) shall be subject to disapproval by the Plaintiffs within twenty-one (21) calendar days of receipt of their name(s) and qualifications. Selection of contractor(s) or any major subcontractor(s) to be retained by the Settling Defendants to perform construction of the designed remedy shall likewise be subject to disapproval by the Plaintiffs, on similar notice. Any such disapproval by the Plaintiffs shall state the basis therefor.

B. Appendix B to this Consent Decree provides a Remedial Action Plan (RAP) for the completion of remedial design and

remedial action at the Facility. This RAP is incorporated into and made an enforceable part of this Consent Decree.

C. The Settling Defendants shall, during design and remedial action at the Facility, observe and abide by all legally applicable and relevant and appropriate requirements of state, federal, and local law identified in the ROD or which subsequently are determined to apply to the Facility, and the performance standards set forth below.

D. The following work shall be performed:

1. Within 15 calendar days after the effective date of this Consent Decree, the Settling Defendants shall submit to the U.S. EPA and the IDEM a Work Plan for the Work. Such Work Plan shall be subject to disapproval by the U.S. EPA, in consultation with the State, within 21 calendar days after receipt. Any such disapproval shall state the basis therefor, and Settling Defendants shall modify the Work Plan in accordance with the terms of the disapproval and resubmit it within 21 calendar days of receipt of the disapproval. Settling Defendants shall commence performance of the Work Plan for the remedial design and remedial action at the facility (RD/RA Work Plan), which shall be annexed to this Consent Decree and incorporated herein as Appendix E, within 10 days of receipt of final approval from the U.S. EPA and the State. U.S. EPA, in consultation with the State, shall complete the review of the Work Plan within 45 calendar days after receipt. The RD/RA Work Plan shall be developed in accordance with the

RAP and the U.S. EPA Superfund Remedial Design and Remedial Action Guidance, dated June 1986.

2. The RD/RA Work Plan includes, but is not limited to, a schedule for submittal of the following project plans: (1) a sampling and analysis plan; (2) a health and safety/contingency plan; (3) a plan for satisfaction of permitting requirements; (4) a quality assurance project plan or plans, as required by U.S. EPA; (5) a groundwater monitoring plan; and (6) an operations and maintenance plan. The RD/RA Work Plan also includes a schedule for implementation of the RD/RA tasks and submittal of RD/RA reports.

3. The RD/RA Work Plan and other required documents and reports (hereinafter referred to as "documents") shall be subject to review, modification and approval by U.S. EPA in consultation with the State. Any disapproval or modification request by U.S. EPA shall state the basis therefor.

4. Within 45 calendar days of receipt of any document required to be submitted under the RD/RA Work Plan, the U.S. EPA Remedial Project Manager shall notify Settling Defendants, in writing, of approval or disapproval of the document, or any part thereof. In the event that a longer review period is required, the U.S. EPA Remedial Project Manager shall notify Settling Defendants and the IDEM of the fact within 30 calendar days of receipt of such document. In the event of any disapproval, U.S. EPA shall specify, in

writing, any deficiencies and required modifications to the document and the reasons therefor.

5. Within 30 calendar days of receipt of any U.S. EPA document disapproval, or such additional time as the parties may agree upon in writing, the Settling Defendants shall submit a revised document to U.S. EPA and the IDEM which incorporates the U.S. EPA modifications. Should the Settling Defendants not agree with the terms of any disapproval or modifications they should provide a notice of dispute pursuant to Paragraph XV within 10 calendar days of receipt of the EPA disapproval document.

6. Settling Defendants shall proceed to implement the work detailed in the RD/RA Work Plan if and when the RD/RA Work Plan is fully approved by U.S. EPA. Unless otherwise mutually agreed by the parties, the Defendants shall not commence field activities until approval by U.S. EPA of the RD/RA Work Plan and the Health and Safety Plan. The fully approved RD/RA Work Plan shall be deemed incorporated into and made an enforceable part of this Consent Decree. All work, when conducted, shall be conducted in accordance with the National Contingency Plan, the U.S. EPA Superfund Remedial Design and Remedial Action Guidance dated June 1986 and Remedial Investigation and Feasibility Study Guidance dated June 1985, and the requirements of this Consent Decree, including the standards, specifications and schedule contained

in the RD/RA Work Plan and performance standards set forth in the ROD and RAP.

7. The following tasks shall be performed subject to the conditions set forth in this Paragraph and the requirements of the ROD and the RAP and the purposes and goals of this Decree:

a. Monitoring

(i) Description: The Generator Defendants shall construct, maintain, and periodically sample, in accordance with this Decree including the ROD, at least ten (10) monitoring wells and shall periodically sample the surface waters adjacent to the Facility from at least ten (10) locations to determine any final remedial work that may be required at the Facility and to determine the effectiveness and protectiveness of the interim remedy. Sampling at each of the locations and wells shall be conducted at least semiannually, and confirmatory samples shall be taken during the quarter following the sampling event that revealed the presence of a parameter requiring such confirmatory sampling.

(ii) Performance Standard: Installation, development and sampling of the monitoring wells shall be consistent with and subject to the requirements of "A Compendium of Superfund Field Operations Methods," EPA/540/P-87/001, dated December 1987. The monitoring points in the adjacent surface waters shall be selected as set forth in the RAP, and sampled in accordance with U.S. EPA guidance

provided to the Generator Defendants or their contractor or contractors. Analysis of samples collected shall include analysis of priority pollutants, except PCBs and pesticides on such list, and Indiana Department of Environmental Management conventional landfill parameters, including ammonia, and shall be conducted in accordance with the Quality Assurance Project Plan prepared in accordance with the U.S. EPA's 1980 "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans" and with other applicable guidance provided by the U.S. EPA to the Generator Defendants or their contractor or contractors. Monitoring shall continue for a period of at least 30 years after the construction of the cap is complete, unless it can be demonstrated to the U.S. EPA's satisfaction that further monitoring is not necessary.

b. Fencing

(i) Description: The Generator Defendants shall design and construct, and the City Defendant shall maintain, in accordance with the requirements of this Decree including the ROD, a fence to prevent access to the site. The fence shall at a minimum be six feet in height, constructed of durable chain link galvanized material, supported at appropriate intervals by steel pipe and shall enclose the area of the Facility as indicated in Appendix C. Gates shall be provided at appropriate locations, and shall be of like height with the fence and provided with secure means of locking. Generator Defendants shall post, and City Defendant shall

maintain, signs no further apart than every two hundred (200) feet around the perimeter, approximately four (4) feet above grade, of a durable materials securely attached to the fence. Such signs shall be no smaller than one (1) foot by two (2) feet, and shall bear in easily legible lettering, in a color to contrast with the background of the sign, the legend "WARNING: KEEP OUT. THIS SITE CONTAINS HAZARDOUS SUBSTANCES."

(ii) Performance Standard: The fence and signs are intended to be permanent, and thus shall be designed with the goal of essentially unlimited life and ease of maintenance. The fence and signs shall be designed to prevent unknowing and unauthorized entry to the Facility in order to minimize use of the site and exposure to the pond on the Facility. The post-remedial use of the Facility is intended to be restricted to insure integrity of the final cover and monitoring wells and to mitigate the possibility of continued contact with hazardous substances that may be present at the Facility after completion of all remedial work.

c. Cap

(i) Description: The Generator Defendants shall design and construct, and the City Defendant shall maintain, in accordance with this Decree including the ROD, a low permeability cap and cover over the areas designated in Appendix F, and shall provide for the appropriate abandonment, sealing and restoration of ground surface for each unused

on-Facility groundwater monitoring well and all background monitoring wells.

(ii) Performance Standard: The Facility shall be regraded to eliminate leachate seeps and promote adequate drainage away from the site, including the elimination of areas other than the pond on the Facility where precipitation might collect. Any liquid hazardous substances encountered during the regrading process, which are contained in drums, or any obvious areas of spilled liquid hazardous substances and materials contaminated by them, shall be characterized as required under 40 C.F.R. Parts 260 through 264 and removed from the Facility and properly disposed of at a facility approved by the U.S. EPA or a State having authorization to manage the federal hazardous waste program under 40 C.F.R. Part 270. The cap shall be a minimum of two feet of clayey soil having a permeability of no greater than 1 x 10^{-6} cm/sec, or an equivalent design permeability, infiltration and stability, as enforced by the State of Indiana, and shall comply with the requirements of Indiana Department of Environmental Management regulations appearing at 330 IAC or subsequent recodification or amendments promulgated prior to the signing by all parties of the Consent Decree. A minimum of six (6) inches of topsoil shall be placed over the clayey soil cover and seeded with suitable vegetation to control erosion. The final slope of the clayey soil cap and the cover shall be no less that two (2) per cent grade. The

cap shall be designed, constructed, and maintained to minimize infiltration and leachate generation, to operate with minimum maintenance, to promote drainage, and to minimize erosion, and to protect against exposure to contaminated surface soils, exposed waste and leachate seeps.

d. Well Replacement

(i) Description: The Generator Defendants shall take all necessary steps as required by the Indiana Department of Natural Resources to abandon and close the three existing residential and/or commercial drinking water wells located on the Facility and screened within the shallow aquifer. If any of the previous users of those wells remain after the wells are abandoned or closed, the Generator Defendants shall then install and develop wells that draw only from the lower aquifer, to provide water to the previous users, or provide such water by other means acceptable to Generator Defendants and the well users.

(ii) Performance Standard: If it is necessary to replace the wells described in the preceding paragraph, this well replacement activity shall be deemed a measure necessary to insure protectiveness of the remedial work at the Facility, and abandonment and closure of the wells, and installation of replacement wells or provision of alternate sources of drinking water, shall be consistent with best engineering practices for similar activities and any requirements of State or local law.

e. Flood Protection

(i) Description: The Generator Defendants shall, in accordance with this Decree including the ROD, design and construct, and the City Defendant shall maintain, flood protection measures to protect the cap and cover in all areas of the Facility that lie within the 100 year floodplain.

(ii) Performance Standard: The flood protection measures are intended to protect the elements constructed in the floodplain, to prevent any washout, erosion or other damage to the cover and cap or to the monitoring wells, during a flood event up to and including a 100 year flood event. These measures may incorporate riprap, additional cover thickness, or other means in accordance with the requirements of Executive Order 11988 and the Indiana Flood Control Act, I.C. 13-2-22.

f. Additional Studies

(i) Description: The Generator Defendants shall conduct additional studies of the adjacent surface waters (the river, the on-site pond and the large off-site pond near the south boundary of the Facility) to determine that no unacceptable threat to human health or the environment results from release(s) of hazardous substances, pollutants or contaminants from the wastes on the Facility into the environment. These tests shall be performed in accordance with the requirements of the ROD and the RAP.

(ii) Performance Standard: The performance of the additional studies shall be consistent with and subject to the requirements of "A Compendium of Superfund Field Operations Methods," EPA/540/P-87/001, dated December 1987. The sampling and analysis shall be done in accordance with U.S. EPA guidance provided to the Generator Defendants or their contractors(s) and the site specific Quality Assurance Project Plan ("QAPP"), which will be subject to approval by U.S. EPA in accordance with Paragraph X of this Consent Decree.

g. Operation and Maintenance

(i) Description: The City Defendant shall have primary responsibility and liability for inspection and maintenance of any fence, including signs, the cap, and the flood protection measures that are constructed in accordance with this Decree, including the ROD. In the event that the City Defendant fails to discharge its obligation hereunder, the Generator Defendants shall be secondarily responsible and liable for such inspection and maintenance, notwithstanding any other provision of this Consent Decree, and the City Defendants shall reimburse the Generator Defendants for all costs incurred by the Generator Defendants in performance of this portion of the Work.

(ii) Performance Standard: The fence, including the signs, the cap, and the flood protection measures shall be maintained so that they continue to meet the performance standards for which they were designed and

constructed, which are set further in subparagraphs (b)(ii), (c)(ii) and (d)(ii) of this Paragraph, and other applicable requirements of this Consent Decree, including the ROD and the RAP. The fence, including the signs, the cap and the flood protection measures shall be maintained until it is demonstrated to U.S. EPA's satisfaction that further maintenance is not necessary to protect human health or the environment.

E. The Parties acknowledge and agree that they believe that the proper performance of the RAP and the RD/RA Work Plan will achieve the performance goals and standards set forth in the ROD and in the Consent Decree. However, nothing herein shall foreclose the Plaintiffs, prior to certification of completion, from seeking performance by the Settling Defendants of all terms and conditions including the performance goals and standards of this Consent Decree.

VIII.

U.S. EPA PERIODIC REVIEW TO ASSURE PROTECTION OF HUMAN HEALTH AND ENVIRONMENT

A. Pursuant to § 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, U.S. EPA shall review the remedial action at the Facility at least every five (5) years after the entry of this Consent Decree to assure that human health and the environment are being protected by the remedial action being implemented. If upon such review or issuance of subsequent Records of Decision, U.S. EPA determines that further response action in accordance with §§ 104 or 106 of

CERCLA, 42 U.S.C. §§ 9604 and 9606, is appropriate at the Facility, the U.S. EPA may take or require such action in a subsequent administrative or judicial action. Generator Defendants reserve any rights they may have to contest or defend against any such action.

B. Nothing in this Consent Decree shall be construed to require the Generator Defendants to implement additional remedial action beyond that which is necessary to fulfill the requirements of the ROD.

IX.

ADDITIONAL WORK

A. In the event that the U.S. EPA in consultation with the State, or the Generator or City Defendants, determine that additional work, including but not limited to further investigatory work or additional removal or disposal of materials or further protective measures, is necessary to fulfill the requirements of the ROD and the performance standards and requirements of Paragraph VII above, the party or parties making such determination shall promptly notify the other parties in writing. Said written notification shall specify why such additional work is necessary and provide a schedule for completion. Any additional work shall be consistent with the requirements of the NCP. If the Generator or City Defendants do not agree that such additional work is necessary, they shall promptly provide notice pursuant to the

dispute resolution process set forth in Paragraph XV of this Consent Decree.

B. Any additional work determined to be necessary by the Generator or City Defendants shall be subject to the review and approval of the U.S. EPA in consultation with the State. Any disapproval by the U.S. EPA of additional work shall be accompanied by a statement of basis therefor.

C. Any additional work determined to be necessary by the Generator or City Defendants and approved by the U.S. EPA in consultation with the State, or determined to be necessary by the U.S. EPA in consultation with the State, shall be completed by the Generator or City Defendants in accordance with the standards, specifications and schedules provided by the U.S. EPA and the State.

X.

QUALITY ASSURANCE

Generator Defendants shall follow and apply, in all monitoring, sampling, and analysis procedures required under this Consent Decree, quality assurance, quality control, and chain of custody procedures in accordance with U.S. EPA's "Interim Guidelines and Specifications For Preparing Quality Assurance Project Plans," (QAM-005/80) and subsequent amendments to such guidelines upon notification to Generator Defendants of such amendments by U.S. EPA. Generator Defendants shall only be required to comply with such amendments for sampling or analyses conducted subsequent to

such notification. Prior to the commencement of any monitoring project under this Consent Decree, Generator Defendants shall submit a Quality Assurance Project Plan ("QAPP") to U.S. EPA and IDEM that is consistent with the RAP and applicable U.S. EPA guidelines submitted to the Generator Defendants by U.S. EPA 30 days prior to the date on which the QAPP is due to be submitted to the U.S. EPA. Prior to the preparation of the QAPP, Generator Defendants' representatives, including the project coordinator and persons in charge of laboratory analyses for the project, shall meet with the U.S. EPA Remedial Project Manager ("RPM") and the U.S. EPA Region V Quality Assurance Office and IDEM Project Coordinator to discuss QAPP related matters. Either the above QAPP, which addresses primarily sampling and analyses, or a construction QAPP, will identify quality control and quality assurance responsibilities for the construction contractor, lead design party, and other appropriate agencies during remedial construction. This QAPP will also define quality assurance objectives and will serve as a guide for the development of the Contractor Quality Control Plan. If prepared as a separate document, this QAPP shall be subject to the same approval procedures as for the sampling and analysis QAPP. U.S. EPA, after review of Generator Defendants' QAPP and the State's comments thereon, will notify Generator Defendants of any required modifications, conditional approval, disapproval or approval of the QAPP(s). Notification of required modifications, conditional approval, or disapproval

shall be accompanied by an explanation of the basis therefor. Upon notification of disapproval or any need for modifications, Generator Defendants shall make all required modifications in the QAPP subject to the dispute resolution provisions of Paragraph XV. Validated sampling data generated consistent with the QAPP shall be admissible as evidence, without objection, in any proceeding under Paragraph XV of this Decree.

Generator Defendants shall assure that U.S. EPA personnel or authorized representatives are allowed access to any laboratory utilized by Generator Defendants in implementing this Consent Decree. In addition, Generator Defendants shall require their laboratory or laboratories to analyze samples submitted by U.S. EPA for quality assurance monitoring.

XI.

ACCESS, SAMPLING, DOCUMENT AVAILABILITY

A. By his signature on this Consent Decree, Richard Yount (Owner Defendant) agrees that he will comply with the terms and conditions of the Settlement Agreement he has entered into with Generator Defendants and he hereby grants permission to the United States and the State, their agencies and departments, or their authorized representatives, including contractors, to enter and inspect the Site, consistent with their respective authorities under State and Federal law. Yount further grants permission to the Generator and City Defendants, or their authorized contractors and representatives, to enter the site and/or have such easements over the property as may be

necessary to implement the provisions of this Consent Decree, including the RD/RA Work Plan.

B. To the extent that other areas where Work is to be performed hereunder are presently owned by parties other than those bound by this Consent Decree, Generator Defendants shall use their best efforts to obtain access agreements from the present owners within thirty (30) calendar days of entry of this Consent Decree for purposes of implementing the requirements of this Decree. Such agreements shall provide access at reasonable times for U.S. EPA, the State, authorized representatives of U.S. EPA and the State, and Generator Defendants' representatives and contractors. If such access agreements are not obtained within the time specified herein, Generator Defendants shall so notify U.S. EPA and the State. In the event that Generator Defendants are unable to obtain access to other work areas where Work is to be performed, the United States and the State will use their best efforts, consistent with their legal authority, to assist the Generator Defendants in obtaining such access. Generator Defendants shall reimburse the United States and the State for all reasonable costs incurred in their efforts to assist the Generator Defendants in obtaining access if those costs are not otherwise reimbursed. The "Force Majeure" provision, Paragraph XIV of this Decree, shall govern any delays in performance caused by or attributable to difficulties in obtaining access

to other areas where work is to be performed for the proper and complete performance of this Consent Decree.

C. Generator Defendants shall make available to U.S. EPA and the IDEM the validated results of all sampling and/or tests or other data generated by Generator Defendants, with respect to the implementation of this Consent Decree, and shall submit these results in the next monthly progress report after the data become available, as described in Paragraph XII of this Consent Decree.

D. At the request of U.S. EPA or the State, Generator Defendants shall allow split or duplicate samples to be taken by U.S. EPA, the State, and/or their authorized representatives of any samples collected by Generator Defendants pursuant to the implementation of this Consent Decree. Generator Defendants shall notify U.S. EPA and the IDEM not less than fourteen (14) days in advance of any sample collection of major field activity, unless circumstances at the site make such notice impracticable. In addition, U.S. EPA and the IDEM shall have the right to take any additional samples that U.S. EPA and the IDEM deem necessary. The Generator Defendants may request, pursuant to and consistent with the provisicns of § 104(e) of CERCLA, 42 U.S.C. § 9604(e), that the U.S. EPA provide them with split and/or duplicate samples of any samples collected by the U.S. EPA under the authority of said 42 U.S.C. § 9604(e). U.S. EPA will comply with that authority.

XII.

REPORTING REQUIREMENTS

A. Generator Defendants shall require the contractor to prepare and provide to U.S. EPA and the IDEM written monthly progress reports which: (1) describe the actions which have been taken toward achieving compliance with this Consent Decree during the previous month; (2) include all results of sampling and testing and all other data received by Generator Defendants during the course of the Work during the previous month; (3) summarize all plans and procedures completed under the RD/RA Work Plan during the previous month; (4) describe all actions, data, and plans which are scheduled for the next month and provide other information relating to the progress of construction as is customary in the industry; (5) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the RAP or RD/RA Work Plan, any scheduled deadlines that have been missed, and a description of efforts made to mitigate those delays or anticipated delays. These progress reports are to be submitted to U.S. EPA and the IDEM by the fifteenth day of every month following the effective date of this Consent Decree.

B. If the date for submission of any item or notification required by this Consent Decree falls upon a weekend or state or federal holiday, the time period for submission of that item

or notification is extended to the next working day following the weekend or holiday.

C. Upon the occurrence of any event during performance of the Work which, pursuant to § 103 of CERCLA, 42 U.S.C. § 9603, requires reporting to the National Response Center, the Settling Defendant responsible for that portion of the Work shall promptly orally notify the U.S. EPA Project Manager ("RPM") and IDEM Project Manager, or in the event of the unavailability of the U.S. EPA RPM, the Emergency Response Section, Region V, United States Environmental Protection Agency, in addition to the reporting required by § 103. Within 20 days of the onset of such an event, such Defendant shall furnish to plaintiffs a written report setting forth the events which occurred and the measures taken, and to be taken, in response thereto. Within 30 days of the conclusion of such an event, such Defendant shall submit a report setting forth all actions taken to respond thereto.

D. Generator Defendants shall report verbally within 5 business days of becoming aware of any event or occurrence which is likely to cause delay in performance of the work.

E. During the post-termination monitoring period, after the additional studies have been completed, reports must be submitted on an annual basis promptly following the annual monitoring.

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
FORT WAYNE DIVISION

UNITED STATES OF AMERICA, Plaintiff v. RICHARD YOUNT, et al., Defendants STATE OF INDIANA, Plaintiff v. RICHARD YOUNT, et al, Defendants	)	CIVIL ACTION NO.

CONSENT DECREE

XIII.

REMEDIAL PROJECT MANAGER/PROJECT COORDINATORS

A. U.S. EPA shall designate an RPM and the IDEM shall designate a Project Coordinator for the Facility, and each Plaintiff may designate an alternative representative, including U.S. EPA and State agency employees and contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. The RPM shall have the authority lawfully vested in an RPM by the National Contingency Plan, 40 CFR Part 300. Both Generator and City Defendants shall also designate Project Coordinators who shall have primary responsibility for implementation of the Work at the Facility.

B. To the maximum extent possible, except as specifically provided in the Consent Decree, communications between Generator Defendants, the IDEM and U.S. EPA and exchange of all documents, reports, approvals and other correspondence concerning the activities performed pursuant to the terms and conditions of this Consent Decree shall be made between the Project Coordinators and the RPM. During implementation of this Consent Decree the Project Coordinators and RPM shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues. Such informal discussions shall not abrogate or delay any obligation of the Generator Defendants, and this paragraph shall not affect the rights and obligations of the

parties with respect to the provisions regarding dispute resolution under Paragraph XV below, or with respect to stipulated penalties under Paragraph XVIII below.

C. Within ten (10) calendar days of the effective date of this Consent Decree, Generator Defendants, the IDEM and U.S. EPA shall notify each other, in writing, of the name, address and telephone number of the designated Project Coordinator and any Alternate Project Coordinator and the RPM and any alternate RPM.

XIV.

FORCE MAJEURE

A. "Force Majeure" for purposes of this Consent Decree is defined as any event arising from causes beyond the control of any defendant which delays or prevents the performance of any obligation under this Consent Decree. "Force Majeure" shall not include increased costs or expenses or non-attainment of the performance standards set forth in paragraph VII hereof or the Remedial Action Plan. Increases of costs alone shall not be considered to be circumstances beyond the control of any Settling Defendant.

B. The Settling Defendants, in claiming the existence of a "Force Majeure," shall notify the RPM and the State Project Coordinator, in writing, no later than ten (10) calendar days after the beginning of a delay caused by an event which the Settling Defendants contend is a "Force Majeure." Such notification shall contain the reason(s) for and anticipated

duration of such delay, the measures to be taken by the Settling Defendants to prevent or minimize the delay, and the timetable for implementation of such measures. Failure of the Settling Defendants to comply with the notice requirement of this paragraph shall constitute a waiver of any claim of "Force Majeure" as to the specific event.

C. The U.S. EPA shall provide the Settling Defendants with a written decision concerning the assertion of "Force Majeure" within twenty (20) calendar days of receipt of notification from the Settling Defendants pursuant to subparagraph B above. If U.S. EPA agrees that a delay is or was attributable to a "Force Majeure" event, the Parties shall modify the RD/RA Work Plan to provide such additional time as may be necessary to allow the completion of the specific phase of Work and/or any succeeding phase of the Work affected by such delay.

D. If U.S. EPA and Settling Defendants cannot agree within fifteen (15) days after receipt of U.S. EPA's written decision by Settling Defendants whether the reason for the delay was a "Force Majeure" event, whether the duration of the delay is or was warranted under the circumstances, or cannot agree on an adjustment in the work schedules hereunder, the Parties shall resolve the dispute according to Paragraph XV. Settling Defendants shall have the burden of proving "Force Majeure."

XV.

DISPUTE RESOLUTION

A. As required by § 121(e)(2) of CERCLA, 42 U.S.C. 9621(e), the Parties to this Consent Decree shall attempt to resolve expeditiously and informally any disagreements concerning implementation of this Consent Decree or any Work required hereunder. This Paragraph shall not apply to disputes regarding claims made by the Generator Defendants pursuant to Paragraph XXI, Claims Against The Fund, and Appendix G, which shall be arbitrated as required by § 112(b) of CERCLA, 42 U.S.C. § 9612(b).

B. In the event that any dispute arising under this Consent Decree is not resolved expeditiously through informal means, any party desiring dispute resolution under this Paragraph shall give prompt written notice to the other parties to the Decree.

C. Within ten (10) days of the service of notice of dispute pursuant to subparagraph B, the party who gave the notice shall serve on the other parties to this Decree a written statement of the issues in dispute, the relevant facts upon which the dispute is based and factual data, analyses or opinions(s) supporting its position, and all supporting documentation on which such party relies (hereinafter the "Statement of Position"). Opposing parties shall serve their Statements of Position, including supporting documentation, no

later than ten (10) days after receipt of the complaining party's Statements of Position.

D. An administrative record of any dispute under this paragraph shall be maintained by U.S. EPA. The record shall include the written notification of such dispute and the Statements of Position served pursuant to the preceding subparagraphs. Upon review of the administrative record, U.S. EPA shall issue a final decision and order resolving the dispute. The record shall be available for review by all parties.

E. Any party desiring dispute resolution under this section may serve and file a motion for dispute resolution with the court subsequent to the final decision of U.S. EPA. In the case of an objection by Settling Defendant(s) to a decision or determination by U.S. EPA, the objection Settling Defendant(s) shall serve and file such motion within twenty (20) days of the receipt of the decision or determination complained of.

F. Any party seeking dispute resolution pursuant to subparagraph E shall include in its Motion a written statement of the issues in dispute, a recitation of the relevant facts and evidence upon which the dispute is based, and where appropriate a citation to the documentation in the administrative record compiled pursuant to subparagraph D above upon which such party relies.

G. Certification. The custodian of the record maintained pursuant to subparagraph D shall certify and submit the

administrative record to the Court upon the filing of a Motion for Dispute Resolution by U.S. EPA or, in the case of a motion challenging U.S. EPA's decision, upon the filing of the Agency's response to the Motion for Dispute Resolution.

H. Judicial Review

1. EPA Determinations Respecting Remedial Action. Any decision or determination by U.S. EPA pertaining to the selection or adequacy of response action(s) taken under this Consent Decree will be reviewed by the Court on the basis of the administrative record, and U.S. EPA's decision will be upheld by the Court unless it is arbitrary and capricious or otherwise not in accordance with law.

2. Other Issues. Except as specified in subparagraph H(1) above or otherwise in this Decree, this Consent Decree does not establish burdens of proof or standards of any kind for judicial review of disputes between the parties.

3. Applicable Law. Notwithstanding the provision in subparagraph H(1) above, if Congress or a court of controlling jurisdiction establishes or provides for a different procedure or standard of review with respect to U.S. EPA decisionmaking pertaining to the selection or adequacy of response action(s), either party may move the Court to modify subparagraph H(1) to conform to such procedure or standard of review.

I. The invocation of the procedures stated in this Paragraph shall not extend or postpone a Settling

Defendant's(s') obligations under this Consent Decree with respect to the disputed issues unless and until U.S. EPA finds, or the Court orders, otherwise.

XVI.

RETENTION AND AVAILABILITY OF INFORMATION

A. Generator Defendants shall make available to U.S. EPA and the State and shall retain, during the pendency of this Consent Decree and for a period of ten (10) years after its termination, all records and documents in their possession, custody, or control which relate to the performance of this Consent Decree, including, but not limited to, documents reflecting the results of any sampling, tests, or other data or information generated or acquired by any of them, or on their behalf, with respect to the Facility. After the ten (10) year period of document retention, Generator Defendants shall notify U.S. DOJ, U.S. EPA, and the State at least ninety (90) calendar days prior to the destruction of any such documents, and, upon request by U.S. EPA or the State, Generator Defendants shall relinquish custody of the documents to U.S. EPA or the State. City Defendant shall retain for a like term, subject to the same requirements, copies of all records relating to the performance of the City's operation and maintenance activities that are the City's responsibility under this Consent Decree.

B. Generator Defendants may assert business confidentiality claims covering part or all of the information provided in connection with this Consent Decree in accordance

with § 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and pursuant to 40 C.F.R § 2.203(b) and applicable State law.

C. Information determined to be confidential by U.S. EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B and, if determined to be entitled to confidential treatment under State law by the State, afforded protection under State law by the State. If no such claim accompanies the information when it is submitted to the U.S. EPA and the State, the public may be given access to such information without further notice to Generator Defendants.

D. Information acquired or generated by Generator Defendants in performance of the Work that is subject to the provisions of § 104(e)(7)(F) of CERCLA, 42 U.S.C. § 9604(e)(7)(F), shall not be claimed as confidential by Generator Defendants. Documents or portions thereof which are asserted to be subject to attorney work product privilege or other privilege under law are not subject to inspection and copying under this Consent Decree, but the Generator Defendant or Defendants making such a claim of privilege shall provide to the requesting Party a written identification of the title and subject matter of each document for which is privilege is claimed, and an explanation as to why the privilege is applicable to the document or portion thereof. The requesting party shall have the right to contest any claim of privilege by another party through an appropriate motion to this Court. The

burden of proving that a document is subject to a claim of privilege shall lie with the party asserting the claim.

XVII.

REIMBURSEMENT

A. Generator Defendants shall pay all oversight costs of the United States and the State, not inconsistent with the NCP, incurred after the entry of this Consent Decree in overseeing implementation of the Work. Payments shall be made on an annual basis. The State agrees that it will not engage an independent contractor to oversee implementation of this Decree.

B. Payments shall be made as specified in this subparagraph B. In consideration of and upon payment of all oversight costs as required by this subparagraph the United States and the State covenant not to sue any Generator Defendant for oversight costs incurred in overseeing the Work. The United States and the State shall submit their oversight cost claims in January of each year until the Certification of Completion is signed. The U.S. EPA and the State shall submit an accounting to the Generator Defendants of all oversight costs incurred by the U.S. EPA and the State with respect to this Consent Decree during the previous year. Within ninety (90) calendar days of receipt of such accounting, the Generator Defendants shall remit a certified check to the U.S. EPA, payable to "EPA Hazardous Substances Superfund," and delivered to the U.S. EPA, Superfund, P.O. Box 371003M, Pittsburgh, Pennsylvania 15251, and a copy of such check shall be sent to

the Director, Waste Management Division, U.S. EPA Region V, and to the Assistant Attorney General, Land and Natural Resources Division, U.S. Department of Justice. The Generator Defendants shall, within a like period, submit a certified check in the full amount claimed by the State, to the "Indiana Department of Environmental Management," which shall be delivered to the Office of the Attorney General of the State of Indiana. With respect to oversight costs incurred after January 1 in the final year of performance under this Consent Decree, at the time the United States and the State plan to terminate this Consent Decree, Generator Defendants shall, within thirty (30) days of the submission of an itemized cost statement and supporting documentation by the United States and the State, before termination of this Consent Decree, pay such oversight costs that are not inconsistent with the NCP. Generator Defendants reserve the right to contest, through the dispute resolution process provided in this Consent Decree, whether such costs were actually and appropriately incurred in accordance with law in connection with oversight of the work performed by Settling Defendants under this Consent Decree. On a quarterly basis, the U.S. EPA shall provide the Generator Defendants with a computer generated report, currently known as the SPUR report, listing costs attributable to the Facility. The State will provide similar accounting information, documenting its oversight costs, on a quarterly basis.

C. The Response Costs set forth in subparagraphs A and B of this Paragraph are not inconsistent with the National Contingency Plan.

XVIII.

STIPULATED PENALTIES

A. Penalties. The Defendants shall be liable to the United States for payment of stipulated penalties for each of the following violations of this Consent Decree, unless the violation is excused pursuant to Paragraph XIV above or waived by U.S. EPA.

1. Late Plans or Reports. For each day that the Defendants fail to submit periodic progress reports (other than the reports specified in subparagraph 2 below) in accordance with the requirements of this Decree of the RAP:

Days 1-7	$ 100 per day
Days 8-30	$ 500 per day
After 30 Days	$1000 per day

2. Delayed Remedial Action Work. For each day that the following remedial action work is delayed the sum of $500 per day for the first 7 days, $2500 for the 8th through 30th day, $5000 for the 31st through 60th days and $10,000 for each day after the 60th day;

i. Submission of the Work Plan.

ii. Submission of a QAPP and a sampling and analysis plan.

iii. Submission of plans for the design, construction and operation and maintenance of the cap, fence, and flood protection devices.

iv. Completion of the cap, fence and flood protection devices and submission of the remedial action report.

v. Completion of the additional studies set forth in the RAP and the RD/RA Work Plan.

Penalties for the untimely submission of plans for the design, construction, and operation and maintenance of the cap, fence, and flood protection devices will be forgiven if the Defendants complete construction of the cap, fence and flood protection devices and submit the remedial action report on time. Any penalties for the untimely submission of such plans shall be collected as specified in subparagraph C below, but shall be paid into an interest-bearing escrow account and shall remain there until the deadline set forth above. If such deadline is missed, the balance of the escrow account shall be paid into the Hazardous Substances Superfund, as provided in subparagraphs A and C. If such deadline is met, the balance of the escrow account shall be paid to the Defendants.

3. $25,000 Per Day Cap. Stipulated penalties due under this paragraph shall not exceed a total of $25,000 per day.

4. Time Limitation. Stipulated penalties due hereunder shall be deemed waived if notice is not given by the United States pursuant to subparagraph C below within one year of receipt of notice that the deadline for an action has been

missed or other violation giving rise to the penalty has occurred. This limitation shall not apply if Defendants have failed to report a missed deadline or other violation giving rise to a stipulated penalty in the reports submitted pursuant to this paragraph XII hereof.

5. Accrual. All penalties begin to accrue on the day after complete performance is due, and continue to accrue through the final day of correction of the noncompliance. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Decree, subject to the limitations set forth in subparagraph (a)(3) above. Payment of penalties shall not alter in any way Generator Defendants' obligation to complete performance.

B. Following the U.S. EPA's determination that Defendants have failed to comply with the requirements of this Consent Decree, U.S. EPA shall give Defendants written notice of said violation and describe the noncompliance with specificity. This notice shall also indicate the amount of penalties due.

C. All penalties owed to the United States under this Paragraph shall be payable within thirty (30) days of receipt of the notification of noncompliance, unless the Defendants invoke the dispute resolution procedures under Paragraph XV above. Penalties shall accrue from the date of violation regardless of whether the U.S. EPA has notified the Defendants of a violation. Interest shall begin to accrue on the unpaid balance at the end of the thirty (30) day period following

notice by U.S. EPA. Such penalties shall be paid by certified check to the "Hazardous Substances Superfund" and shall contain Defendants' complete and correct address, the Facility name, and the docket number of this case. All checks shall be mailed to U.S. EPA, Superfund, P.O. Box 370013M, Pittsburgh, Pennsylvania 15251.

D. Neither the filing of a petition to resolve a dispute nor the payment of penalties shall alter in any way the Defendants' obligations to complete the activities required of them under this Consent Decree.

E. Pursuant to 31 U.S.C. § 3717, interest shall accrue on any amounts overdue at a rate established by the Department of Treasury for any period after the date of billing. A handling charge will be assessed at the end of each 30 day late period, and a six percent per annum penalty charge will be assessed if the penalty is not paid within 90 days of the due date.

F. Notwithstanding the stipulated penalties provisions of subparagraph A of this Paragraph, U.S. EPA may elect to assess civil penalties or the United States may elect to bring an action in U.S. District Court pursuant to § 109 of CERCLA, as amended by SARA, 42 U.S.C. § 9609, to enforce the provisions of this Consent Decree provided that Defendants' total penalty exposure for violations shall be limited as provided by § 109 of CERCLA. However, U.S. EPA and the United States agree not to seek both stipulated penalties and § 109 civil penalties for the same violation. Payment of stipulated penalties shall not

preclude U.S. EPA from electing to pursue any other remedy or sanction to enforce this Consent Decree, and nothing herein shall preclude U.S. EPA or the State from seeking statutory penalties against Defendants for violations of statutory or regulatory requirements.

G. Stipulated penalties shall not continue to accrue against the Defendants beyond the one year anniversary of any date which commences a period for which stipulated penalties are assessable. In the event that a violation causing the accrual of stipulated penalties continues beyond one year, U.S. EPA reserves its right to assess and collect penalties for such continuing violation pursuant to Section 109 of CERCLA.

H. Defendants may dispute Plaintiffs' right to the stated amount of penalties by invoking the dispute resolution provisions of Paragraph XV above. Penalties shall accrue but need not be paid during the dispute resolution period. If this Court becomes involved in the resolution of such dispute, the period of dispute shall end upon the rendering of a decision by the District Court regardless of whether any party appeals such decision. If Defendants prevail upon resolution, Defendants shall pay only such penalties as the resolution requires.

I. No penalties shall accrue for violations of this Consent Decree caused by events beyond the control of Defendants as identified in Paragraph XIV ("Force Majeure"). Defendants have the burden of establishing that an event causing delay or nonperformance constitutes a "Force Majeure".

XIX.

COVENANT NOT TO SUE

A. In consideration of actions which will be performed and payments which will be made by the Settling Defendants under the terms of the Consent Decree, and except as otherwise specifically provided in this Decree, the United States and the State covenant not to sue the Settling Defendants or their officers, directors, employees, agents, successors or assigns for Covered Matters. Plaintiffs reserve, with respect to this Consent Decree, all claims that are not included within Covered Matters.

B. Covered Matters shall include any and all claims available to Plaintiffs as against the Settling Defendants under §§ 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607, and § 7003 of RCRA, 42 U.S.C. § 6973, and any and all claims available to the State under statutory and common law, relating to the work and activities performed by Settling Defendants under this Consent Decree. Covered Matters also includes all claims of the United States and the State as against the Settling Defendants for reimbursement under the provisions of § 107 of CERCLA, 42 U.S.C. § 9607, and applicable State law, of costs incurred prior to September 30, 1987, under the authority of § 104 of CERCLA, 42 U.S.C. § 9604, in connection with the Remedial Investigation and Feasibility Study for the Facility, and all associated contractor, administrative and legal costs.

C. "Covered Matters" does not include:

(1) Liability arising from hazardous substances removed from the Facility;

(2) Natural Resource damages;

(3) Criminal liability;

(4) Claims based on a failure by the Generator Defendants to meet the requirements of this Consent Decree;

(5) Liability for violations of Federal or State law which occur during implementation of the remedial action; and

(6) Liability for work required to meet final remedial action requirements identified pursuant to § 104 of CERCLA, 42 U.S.C. § 9604.

D. Notwithstanding any other provision in this Consent Decree, (1) the United States reserves the right to institute proceedings in a new action or to issue an Order seeking to compel the Settling Defendants to perform any additional response work at or emanating from the Facility, and (2) the United States and the State reserve the right to institute proceedings in a new action seeking to reimburse the United States for its response costs incurred after the entry of this Consent Decree, and to reimburse the State for its matching share of any response action undertaken by the Plaintiffs under CERCLA after the entry of this Consent Decree, relating to the Facility, if:

a. For proceedings prior to U.S. EPA certification of completion of the remedial action concerning the Facility,

(i) conditions at the Facility, previously unknown to the United States, are discovered ~~after the certification of completion by U.S. EPA~~, or

(ii) information is received, in whole or in part, ~~after the certification of completion by U.S. EPA~~, and these previously unknown conditions, or this information, or both, indicates that the remedial action is not protective of human health and the environment.

b. For proceedings subsequent to U.S. EPA certification of completion of the remedial action concerning the Facility,

(i) conditions at the Facility, previously unknown to the United States, are discovered after the certification of completion by U.S. EPA, or

(ii) information is received, in whole or in part after the certification of completion by U.S. EPA, and these previously unknown conditions, or this information, or both, indicates that the remedial action is not protective of human health and the environment.

E. Notwithstanding any other provisions in this Consent Decree, the covenant not to sue in Paragraph XIX shall not relieve the Settling Defendants of their obligation to meet and maintain compliance with the requirements set forth in this Consent Decree, including conditions in the ROD and the performance standards set forth herein. The United States reserves its right to take response actions at the Facility in the event of a breach of the terms of this Consent Decree and to seek recovery of costs incurred after entry of the Consent Decree: 1) resulting from such a breach; 2) relating to any

portion of the work funded or performed by the United States; or 3) incurred by the United States as a result of having to seek judicial assistance to remedy conditions at or adjacent to the Facility.

F. Nothing in this Consent Decree shall constitute or be construed as a release or a covenant not to sue regarding any claim or cause of action against any person, firm, trust, joint venture, partnership, corporation, or other entity not a signatory to this Consent Decree for any liability it may have arising out of or relating to the Facility. Plaintiffs expressly reserve the right to pursue an action, administrative or judicial, against any person other than the Generator Defendants, in connection with the Facility.

G. The United States and the State agree that, pursuant to § 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), so long as the Settling Defendants are in compliance with this Consent Decree and after termination hereof, the Settling Defendants shall not be liable to persons not Parties to this Decree for claims for contribution regarding the Work or any other matters covered by this Consent Decree.

XX.

OTHER CLAIMS

A. Generator Defendants agree to indemnify, save and hold harmless but not to defend the United States, the State and/or their representatives from any and all claims or causes of action arising from acts or omissions of Generator Defendants

and/or their representatives in carrying out the activities pursuant to this Consent Decree. The United States and the State shall notify Generator Defendants of any such claims or actions within a reasonable time after receiving notice that such a claim or action is anticipated or has been filed. The United States and the State agree not to act with respect to any such claim or action without first providing Generator Defendants an opportunity to participate.

B. The United States and the State are not to be construed as parties to, and do not assume any liability for, any contract entered into by Generator Defendants in carrying out the activities pursuant to this Consent Decree.

XXI.

CLAIMS AGAINST THE FUND

A. In accordance with the preauthorization decision document, Appendix G, the Generator Defendants may submit a claim to reimbursement to the Hazardous Substance Superfund for up to twenty-five percent (25%) of the costs incurred in completing the remedial design and the remedial action. In no event shall the claim against the Fund exceed the sum of One Million Seven Hundred Seventy-five Thousand Dollars ($1,775,000), unless the amount preauthorized is modified pursuant to subparagraph B. The claim against the Fund shall cover only the Generator Defendants' costs of the remedial design and remedial action. The claim against the Fund shall not include any of the Plaintiffs' oversight costs or

investigatory costs or past Response Costs of the United States that were incurred prior to the lodging of this Decree. Reimbursement from the Fund of the amount claimed by the Generator Defendants shall be subject to the applicable claims and audit procedures specified in Appendix G, and shall be made in accordance with the procedures outlined in Appendix G.

B. If it is subsequently determined that it is necessary to modify the actions that U.S. EPA preauthorized, or if the Generator Defendants undertake Additional Work approved by the U.S. EPA pursuant to Pargraph IX, or if it becomes apparent that the project's costs will exceed the approved costs as set out in Appendix G, the Generator Defendants may submit to U.S. EPA a revised application for preauthorization. U.S. EPA will consider applications for preauthorization from the Generator Defendants in a timely manner and, subject to the validity of the request and the availability of funds appropriated for response actions from the Hazardous Substances Superfund, will revise the preauthorization decision document to cover twenty-five percent (25%) of reasonable and necessary costs to implement the approved remedy.

C. If the U.S. EPA denies a claim in whole or in part, it shall notify the Generator Defendants of the reason for such denial. If the Generator Defendants are dissatisfied with U.S. EPA's decision, the Generator Defendants may, within thirty (30) days after receiving notice of U.S. EPA's decision, request an administrative hearing as provided in § 112(b)(2) of CERCLA, 42 U.S.C. § 9612(b)(2).

D. Payment of any claim shall be subject to Generator Defendants' subrogating to the United States their rights as claimant to the extent to which their costs are compensated from the Fund. Further, the Generator Defendants shall assist the United States, in accordance with such requests for assistance as it shall make, in any cost recovery action subsequently brought by the United States to recover compensation paid to Generator Defendants. The Generator Defendants and their contractors and consultants shall furnish the necessary personnel, services, documents, materials and other assistance to assist the United States in collection of evidence documenting the work performed and costs expended by the Generator Defendants or their contractors or consultants with regard to the Facility, in aid of such cost recovery action. The Generator Defendants, their contractors and consultants shall also provide all requested assistance in the interpretation of evidence of work and costs, and provide required testimony. All contracts entered into by the Generator Defendants in implementing the Work and covered by the preauthorization decision document shall include a specific requirement that the contractors agree to provide this cost recovery assistance.

E. The Generator Defendants shall not make any claims against the Fund except as provided in subparagraph A of this Paragraph.

XXII.

INSURANCE/FINANCIAL RESPONSIBILITY

Generator and City Defendants shall purchase and maintain in force insurance policies in the maximum amount reasonably available, which shall protect the United States, the State and the public against any and all liability arising out of Generator and City Defendants' and their Architect, Contractor and other agents' acts or omissions in performance of the Work at the Facility with respect to claims for Worker's Compensation, third-party liability coverage including personal injury and property damage equivalent to risks generally insured under Comprehensive General Liability, the automobile and other vehicular traffic liability. Prior to commencement of the Work at the Facility, Generator and City Defendants shall provide U.S. EPA with a certificate of insurance.

Generator and City Defendants shall use their best efforts to obtain reasonably available coverage protecting the United States, the State, and the public against any and all liability arising out of Generator and City Defendants' and their Architect, Contractor and other agent's acts or omissions in the performance of the Work at the Facility, with respect to claims for personal injury, property damage or natural resource damage resulting from sudden or non-sudden accidental releases of hazardous substances, pollutants or contaminants at and from the Facility. Should Generator and City Defendants claim that such insurance coverage is not reasonably available, Generator

or City Defendants shall provide documentation of their efforts to obtain such coverage to U.S. EPA and the State. In the event of a dispute between the parties concerning the availability of such insurance, Generator and City Defendants shall have the burden of proving that they have used best efforts to obtain such coverage and of proving that it was not reasonably available.

XXIII.

NOTICES

Whenever, under the terms of this Consent Decree, notice is required to be given, a report or other document is required to be forwarded by one party to another, or service of any papers or process in necessitated by the dispute resolution provisions of Paragraph XV hereof, such correspondence shall be directed to the following individuals at the addresses specified below. Delivery or service of any such report, document, papers or process shall be by Express or Registered or Certified Mail, or by equivalent private delivery service properly receipted. The party required to make delivery shall have the burden of demonstrating that the requirements of this Paragraph have been satisfied. Where the date of receipt of a delivery cannot clearly be established, receipt shall be deemed to occur on the third business day following the date on which the document as deposited for delivery, unless the document has been returned to the sender by the U.S. Postal Service or the equivalent private delivery service.

As to the United States or U.S. EPA:

a. Regional Counsel
Attn: Marion/Bragg Dump Coordinator (5CS)
U.S. Environmental Protection Agency
230 S. Dearborn Street
Chicago, Illinois 60604

b. Director, Waste Management Division
Attn: Marion Bragg Dump Remedial Project Manager (5HS)
U.S. Environmental Protection Agency
230 S. Dearborn Street
Chicago, Illinois 60604

c. Assistant Attorney General
Land & Natural Resources Division
U.S. Department of Justice
10th & Pennsylvania Ave., N.W.
Washington, D.C. 20530

As to the State:

a. Attorney General
State of Indiana
Attn: Marion Bragg Dump Coordinator
219 State House
Indianapolis, Indiana 46204

b. Nancy A. Maloley, Commissioner
Indiana Department of Environmental Management
Attn: Assistant Commissioner
Office of Environmental Response
105 S. Meridian
Indianapolis, Indiana 46206-6015

As to Settling Defendants:

John N. Hanson, Esq.
Beveridge & Diamond, P.C.
1333 New Hampshire Ave., N.W.
Suite 900
Washington, D.C. 20036

XXIV.

CONSISTENCY WITH NATIONAL CONTINGENCY PLAN

The United States and the State agree, and the Court finds, that the Work, if properly performed as set forth in Paragraph VII hereof, is consistent with the provisions of the National Contingency Plan pursuant to § 105 of CERCLA, 42 U.S.C. § 9605.

XXV.

RESPONSE AUTHORITY

Nothing in this Consent Decree shall be deemed to limit the response authority of the United States under 42 U.S.C. §§ 9604 or 9606, or 42 U.S.C. § 6973.

XXVI.

MODIFICATION

Except as provided for herein, there shall be no modification of this Consent Decree without written approval of all Parties to this Consent Decree.

XXVII.

PUBLIC PARTICIPATION

The United States shall publish a notice of this Consent Decree's availability for review and comment upon its lodging with the United States District Court as a proposed settlement in this matter.

The United States will provide persons who are not parties to the proposed settlement with the opportunity to file written comments during at least a thirty (30) day period following such notice. The United States will file with the Court a copy of any comments received and the responses of the United States to such comments.

After the closing of the public comment period, the United States will review such comments and determine whether the comments disclose facts or considerations which indicate that this proposed settlement is inappropriate, improper or

inadequate, and that its consent to this agreement should therefore be withdrawn. Should its consent be withdrawn, the United States shall inform the other parties as to the basis for the withdrawal and any modifications necessary for consent to a settlement. Thereafter, the Parties may by mutual agreement attempt to negotiate an appropriate Consent Decree.

XXVIII.

COMMUNITY RELATIONS

Generator and City Defendants shall cooperate with U.S. EPA and the State in providing RD/RA information to the public. As requested by U.S. EPA or the State, Generator and City Defendants shall participate in the preparation of all appropriate information disseminated to the public and in public meetings which may be held or sponsored by U.S. EPA or the State to explain activities at or concerning the Facility.

XXIX.

EFFECTIVE AND TERMINATION DATES

A. This Consent Decree shall be effective upon the date of its entry by the Court.

B. When Generator Defendants determine that they have completed the Work, they shall submit to U.S. EPA a Notice of Completion and a final report as required by the RD/RA Work Plan. The final report must summarize the Work performed, any modification(s) to the RD/RA Work Plan, and the performance levels achieved. The summary shall include or reference any supporting documentation.

Upon receipt of the Notice of Completion, U.S. EPA and the State shall promptly review the accompanying report and any other supporting documentation. U.S. EPA shall issue a Certification of Completion upon its determination that Generator Defendants have satisfactorily completed the Work and have achieved the purpose and performance standards required under this Consent Decree. After submittal of a Notice of Completion, but prior to the issuance of any Certification of Completion, U.S. EPA shall promptly undertake a review of the remedial action performed under Paragraph VII. The Certification shall be issued only if U.S. EPA determines that: 1) Generator Defendants have satisfactorily completed the Work and achieved the purpose and performance standards required under this Consent Decree; 2) all stipulated penalties required to be paid under Paragraph XVIII have been paid; and 3) that all oversight costs have been paid pursuant to Paragraph XVII. U.S. EPA shall not unreasonably delay its determination concerning issuance of a Certification of Completion. Upon issuance by U.S. EPA of its Certification of Completion, the Generator Defendants may submit such Certification to the Court as evidence that the terms of this Consent Decree have been fully satisfied by the Generator Defendants. The Court may thereupon so find, and upon such finding this Consent Decree shall terminate. However, Generator Defendants' obligations to retain records and perform post-termination monitoring and reporting, and the City

Defendant's obligations to perform post-termination maintenance of the fence and signs, cap and flood protection measures, shall survive the termination of this Consent Decree, and shall be enforceable by the United States by reinstitution of this action or by institution of a new action.

IT IS SO ORDERED.

Date: 4/24-91

United States District Judge

Defendant's obligations to perform post-termination maintenance of the fence and signs, cap and flood protection measures, shall survive the termination of this Consent Decree, and shall be enforceable by the United States by reinstitution of this action or by institution of a new action.

IT IS SO ORDERED.

Date:

_____

United States District Judge

By the signatures below each Party's name, Consent to this Decree is hereby given:

UNITED STATES OF AMERICA

BY: _____

Assistant Attorney General
Land and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

BY: John F. Hoehner
United States Attorney
Northern District of Indiana

BY: _____

Marcy Toney
Land and Natural Resources Division
U.S. Department of Justice

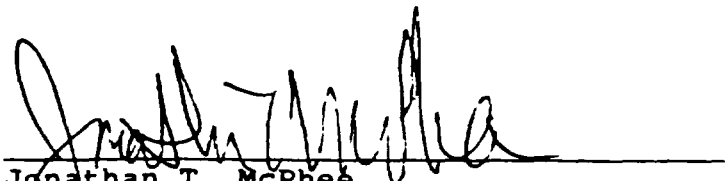
U.S. ENVIRONMENTAL PROTECTION AGENCY

BY: _____

Valdas V. Adamkus
Regional Administrator
U.S. EPA Region V

BY: _____
for

Robert B. Schaefer
Regional Counsel
U.S. EPA Region V

BY: 

Jonathan T. McPhee
Assistant Regional Counsel
U.S. EPA Region V

STATE OF INDIANA
Approved as to form and legality:

Linley E. Pearson
Attorney General of Indiana

BY: 

Mathew Scherschel
Deputy Attorney General

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

BY: 

Commissioner

1312D

Signatures of each Settling Defendant will be on a separate page beneath the statement "The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al."

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al.

GENERAL ELECTRIC COMPANY
SUCCESSOR IN INTEREST TO:
RCA CORPORATION

By: JMK Roger Strelow

Date: 9/29/88

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al.

GENERAL MOTORS CORPORATION

By: _____

Date: 9/29/88

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al.

DANA CORPORATION

By: Lisa Higgsley

Date: September 29, 1988

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al.

OWENS-ILLINOIS, INC.

By: John L. Hodges
Vice President Glass Container Mfg.

Date: Sept. 30, 1988

The undersigned Settling Defendants hereby consent to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al.

By: _____
RICHARD LEON YOUNT

Date: 3-24-89

By: _____
RUTHADEL YOUNT

Date: 3-24-89

1229P

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard-Mount, et al.

DIVERSITECH GENERAL, INC.

By: _____ BHB
Marvin L. Isles

Date: 9-29-88

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al.

CITY OF MARION, INDIANA

By: John F. Kite

Date: 2-15-89

MARION UTILITY SERVICE BOARD

By: Frank Downing
ITS CHAIRMAN

Date: 2/17/89

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. and State of Indiana v. Richard Yount, et al.

Essex Group, Inc.

By: _____

Date: 9/30/00

APPENDICES

Table of Contents

APPENDIX A: RECORD OF DECISION

APPENDIX B: REMEDIAL ACTION PLAN

APPENDIX C: MAP OF AREA DELINEATING SITE -- "FACILITY MAP"

APPENDIX D: RESTRICTIVE COVENANT

APPENDIX E: RD/RA WORK PLAN

APPENDIX F: MAP OF SITE DELINEATING "CAP" PORTION

APPENDIX G: PREAUTHORIZATION DECISION DOCUMENT

APPENDIX H: CITY OF MARION SETTLEMENT AGREEMENT

APPENDIX I: RICHARD YOUNT SETTLEMENT AGREEMENT

APPENDIX A

RECORD OF DECISION

Declaration for the Record of Decision

13.)

Site Name and Location:

Marion/Bragg Landfill
Marion, Indiana

Statement of Basis and Purpose:

This decision document represents the selected interim remedial action for the Marion/Bragg Landfill developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Contingency Plan (NCP).

This decision is based upon the administrative record for the Marion/Bragg Landfill. The attached index identifies the items which comprise the administrative record and the public comments upon which the selection of an interim remedial action is based.

The State of Indiana, through the Department of Environmental Management, has concurred on the selected remedy.

Description of the Selected Remedy:

This landfill has three operable units: the surface soils and on-site wastes, the ground water and the on-site pond. This operable unit addresses the surface soils and the on-site wastes. The major components of the selected remedy include:

- Regrade and cap the site to promote rain runoff, reduce infiltration, eliminate leachate seeps and contaminated seep sediments, and prevent direct contact with contaminated surface soils and exposed waste.
- Provide and maintain flood control measures to protect that portion of the site which lies within the 100 year flood plain.
- Construct and maintain a fence around the site perimeter to protect the landfill cover and restrict access to the site and the on-site pond.
- Provide three private use drinking water wells within the deep aquifer for water users who drink from the affected aquifer within the site boundary. Seal the existing shallow wells (if possible, keep one as a monitoring well.)
- Monitor the ground water to determine the effectiveness of the interim remedy and conduct additional studies, as necessary, to complete the remaining ground water and on-site pond operable units.

Declaration:

The selected interim remedy is protective of human health and the environment, attains Federal and State requirements that are appropriate and is cost-effective for those elements addressed by this interim remedy. The statutory preference for treatment is not satisfied because treatment was found to be impractical and not cost-effective. Incineration was the only treatment technology considered beyond the initial screening stage. Based on the lack of off-site incineration capacity, anticipated duration of such remedial action (30 to 100 years), high inorganic content of the waste and ash disposal problems, incineration was not considered a feasible alternative for the landfill contents.

Concurrent with the implementation of the interim measures, the United States Environmental Protection Agency (U.S. EPA) will further study the nature of groundwater contamination on fish consumption and potential impacts to aquatic life and the environment. Implementation of these actions is appropriate now, pending a future determination of the need for any other remedial actions.

September 30th, 1987
Date

Valdas V. Adamkus
Regional Administrator
Region V

Record of Decision Summary
Marion/Bragg Landfill

I. Site Description

The Marion/Bragg Landfill site is located just outside the southeastern city limits of Marion, Indiana. (Figure 1) The landfill occupies approximately 45 acres of a 72-acre site along the west bank of the Mississinewa River. The northern end of the site is within the estimated 100 year flood plain.

The site is bordered on the north and east by the Mississinewa River. (Figure 2) A cemetery is located along the western border and the Eastside Cove recreational area is located along the site's southern border. A residence and two businesses are located on the southwest corner of the site. The two businesses are Marion Paving Company and Dobson Construction Company. Both companies are asphalt plants. A large (15 acre) pond formed from sand and gravel quarry operations is in the center of the site. The on-site pond is occasionally used for recreational purposes, such as boating and fishing. The on-site pond receives discharges associated with gravel washing operations from the Marion Paving Company asphalt plant. A large pond of similar size is located off-site on the Eastside Cove recreational area, adjacent to the southern site boundary. This large pond on the Eastside Cove recreational area is used for fishing.

II. Site History and Current Status

A. History and Waste Types

1. History

The Marion/Bragg site was used as a sand and gravel quarry from 1935 until approximately 1961. During the period from 1949 through 1970, Radio Corporation of America (RCA) leased and used portions of the site for industrial refuse disposal. Concurrently, during the period from 1957 to 1975, Bragg Construction leased and used the site for a municipal landfill. Periodic inspections by the Indiana State Board of Health indicated that operations at the landfill were continually conducted in an unacceptable manner. Indiana State Board of Health (ISBH) specifically noted the disposal of hazardous or prohibited wastes including acetone, plasticizers, lacquer thinners and enamels.

Drummed wastes were allegedly emptied from the drums and "worked" into the landfill waste with a bulldozer. Fires created from this co-disposal operation destroyed two bulldozers. Drums were allegedly rinsed and resold. Other typical violations included lack of daily cover, placing waste in standing water (pond encroachment) and the burning of refuse. In 1975 Bragg Construction ceased operation of the landfill. The landfill was covered with a sandy/silty material and seeded. The landfill was never formally closed through ISBH.

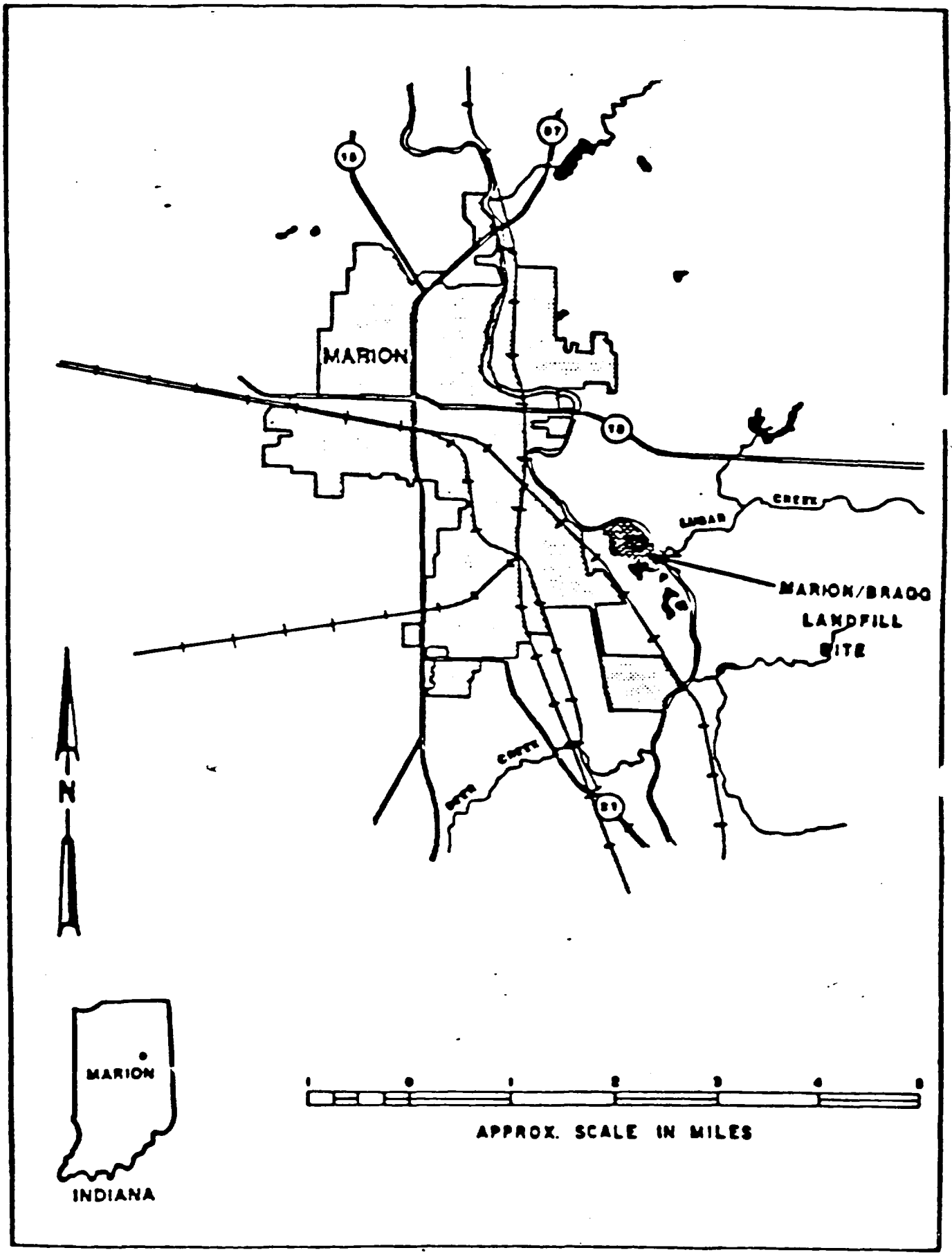


FIGURE 1 SITE LOCATION

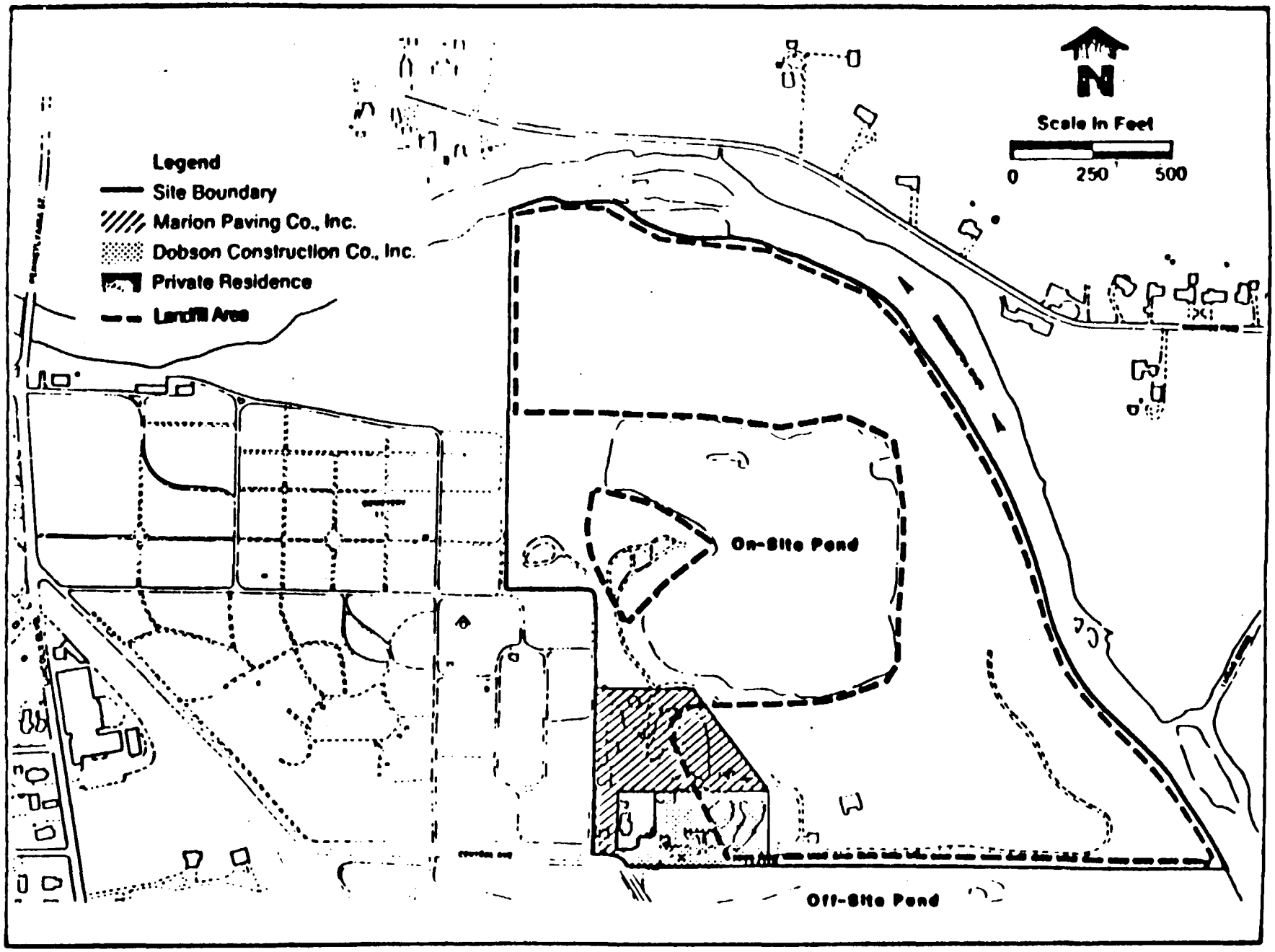


FIGURE 2 SITE MAP - MARION/BRAGG LANDFILL

In 1975, Waste Reduction Systems, a division of Decatur Salvage, Inc., constructed a transfer station on the premises in order to transfer solid wastes to an approved landfill. The transfer station was closed in 1977. In January 1980, ISBH issued a letter stating that the transfer station had been closed in an acceptable manner.

In December, 1982 the Marion/Bragg Landfill was proposed for the National Priorities List (NPL) with a score of 35.25.

2. Waste Types

During the remedial investigation, wastes from 3 boring locations were analyzed to confirm the presence and relative concentrations of hazardous contaminants. (Table 1) Leachate wells were constructed in these borings. These wells were screened within the waste material in order to provide information on the relative concentration of contaminants leaching from the landfill to the ground water at the present time.

B. Present Site Conditions

The final cover applied to the landfill is a very permeable silty sand material which varies in thickness from three to 24 inches. There are numerous areas where debris, including drum carcasses, protrude from the fill. The surface is vegetated in most areas and four to five inch diameter trees are also predominant surface features.

The on-site pond was at one time stocked for recreational fishing, but is no longer used as such. Teenage children have been seen fishing occasionally from the on-site pond, otherwise the site is not typically used. At the southwest edge of the pond is an intake pipe and effluent ditch from the Marion Paving Company. Marion Paving has an expired permit issued for "private use water." The permit allows water withdrawal and discharge to the on-site pond for the gravel washing operation.

Another asphalt company, Dobson Paving Company and a private residential home are also located within the property boundary. All three have shallow wells which are in the upgradient, uncontaminated portion of the aquifer.

C. Site Stratigraphy and Hydrogeology

The stratigraphy at the Marion/Bragg Landfill is very simple. It consists of landfill wastes (0-32 feet thick), outwash deposits (6-64 feet thick), glacial till (54 to 63 feet thick) and bedrock (thickness unknown, surface is 89 to 125 feet below ground surface).

Table 1

Summary of Waste Boring Sampling Results

Merlen/Bragg Landfill RI/FS

CONSTITUENTS	INVESTIGATIVE SAMPLES(a) NO. OF POSITIVE DETECTIONS/ NO. OF VALID OBSERVATIONS(c)	INVESTIGATIVE SAMPLES(a) RANGE OF DETECTION	BACKGROUND SAMPLES(b) NO. OF POSITIVE DETECTIONS/ NO. OF VALID OBSERVATIONS(c)	BACKGROUND SAMPLES(b) RANGE OF DETECTION	TYPICAL CONC. IN U.S. SOILS (EPA,1983)	EXCEEDS TYPICAL CO IN U.S. SO
VOLATILES, (ug/kg)						
1,1-Dichloroethene	1/11	12	0/7	ND	None Established	NA
1,1,1-Trichloroethane	4/11	15 - 46	0/7	ND	None Established	NA
Acetone	6/11	53 - 824	4/7	11 - 85	None Established	NA
[illegible]zene	5/11	5 - 11	0/7	ND	None Established	NA
[illegible]on Disulfide	1/11	5	0/7	ND	None Established	NA
[illegible]hylbenzene	5/11	13 - 340	0/7	ND	None Established	NA
Methylene Chloride	10/11	18 - 240	2/7	7.5 - 9.5	None Established	NA
Styrene	1/11	17	0/7	ND	None Established	NA
Tetrachloroethene	3/11	36 - 91	0/7	ND	None Established	NA
Toluene	5/11	5 - 27	0/7	ND	None Established	NA
Total Xylenes	3/11	40 - 100	0/7	ND	None Established	NA
Trans-1,2-dichloroethene	4/11	10 - 4745	0/7	ND	None Established	NA
Trichloroethene	9/11	5 - 414	0/7	ND	None Established	NA
[illegible]inyl Chloride	3/11	82 - 341	0/7	ND	None Established	NA
SEMI-VOLATILES,(ug/kg)						
[illegible]ethylhexyl)phthalate	11/11	537 - 9,040,000	1/7	970	None Established	NA
[illegible] butylphthalate	1/11	188,000	1/7	447	None Established	NA
Di-n-octylphthalate	1/11	450,000	0/7	ND	None Established	NA
ICIDES, (ug/kg)						
Chlordane	3/4	300 - 640	0/7	ND	None Established	NA
INORGANICS,(mg/kg)						
Antimony	3/11	28 - 46	0/7	ND	2 - 10	Y
Barium	11/11	10 - 402	7/7	11 - 85	100 - 3000	N
Cadmium	9/11	4.3 - 403	1/7	3	.01 - 0.7	Y
Chromium	11/11	6.3 - 25	7/7	7 - 17	1 - 1000	N
Copper	11/11	13 - 5850	7/7	11 - 42	2 - 100	Y
Lead	11/11	6.9 - 5870	7/7	5.5 - 18	2 - 200	Y
Mercury	8/11	.10 - .35	0/7	ND	0.01 - 0.3	N
Sodium	11/11	1410 - 3060	4/7	680 - 1960	None Established	NA
Tin	10/11	11 - 73	3/7	19 - 22	2 - 200	N
Zinc	11/11	32 - 2910	7/7	29 - 87	10 - 300	Y

a) Waste Boring Samples - WB01, WB02, and WB03

b) Background Samples - SS05, SS06, SS09, SS10, SB01, SB02, and SB03

c) Number of samples in which chemical was detected over total number of samples analyzed.

ND - Not Detected

NA - Not Applicable

The landfill contains approximately 1.1 million cubic yards of waste. At least 4 percent of the total volume is perennially saturated in the upper aquifer. The saturated areas are to the east, west, and north of the pond. South of the pond a water filled gravel pit was allegedly filled with demolition debris. The saturated volume of this pond has not been estimated. (Figures 3 & 4)

Outwash deposits (sands and gravel) constitute the surficial aquifer. The average hydraulic conductivity is 4.27×10^{-2} cm/sec. The aquifer gradient is toward the Mississinewa River. The Mississinewa River is a hydraulic barrier causing the contaminated groundwater beneath the site to discharge to the river, without allowing flow to pass beyond the river. The estimated flow velocity is 2.78 ft./day. At this rate, the aquifer beneath the site purges every 2.2 years, or 7 times in the last 15 years.

The on-site and off-site ponds are hydraulically connected to the groundwater. The presence of the large on-site and off-site ponds creates a hydraulic anomaly in that water flows from the off-site pond, discharging to the aquifer, recharging the on-site pond from the south. The on-site pond discharges radially from the west, north and east sides of the pond. The predominant discharge area is to the north, to the Mississinewa River.

The outwash deposits are underlain by a very low permeability glacial till. This till is approximately 54 to 63 feet thick. The hydraulic conductivity ranges from 1.0×10^{-7} cm/sec to 2.88×10^{-8} cm/sec. This till layer is considered an aquiclude.

The glacial till layer is underlain by limestone bedrock. The thickness of this layer is uncertain, but it was first encountered at 88 feet below ground surface. This bedrock layer constitutes a second aquifer. This confined aquifer has an upward vertical gradient, toward the glacial till.

D. Public Health Evaluation: Hazardous Compounds, Pathways and Risks

Numerous exposure pathways were considered in the Public Health Evaluation. These include direct contact with surface soils, leachate seeps, swimming and fish consumption from the on and off-site ponds and consumption of groundwater beneath the site. The field work was completed in two phases; spring (March) and summer (July). This offered some seasonal variability as well as providing two rounds of samples (in most matricies) for data evaluation.

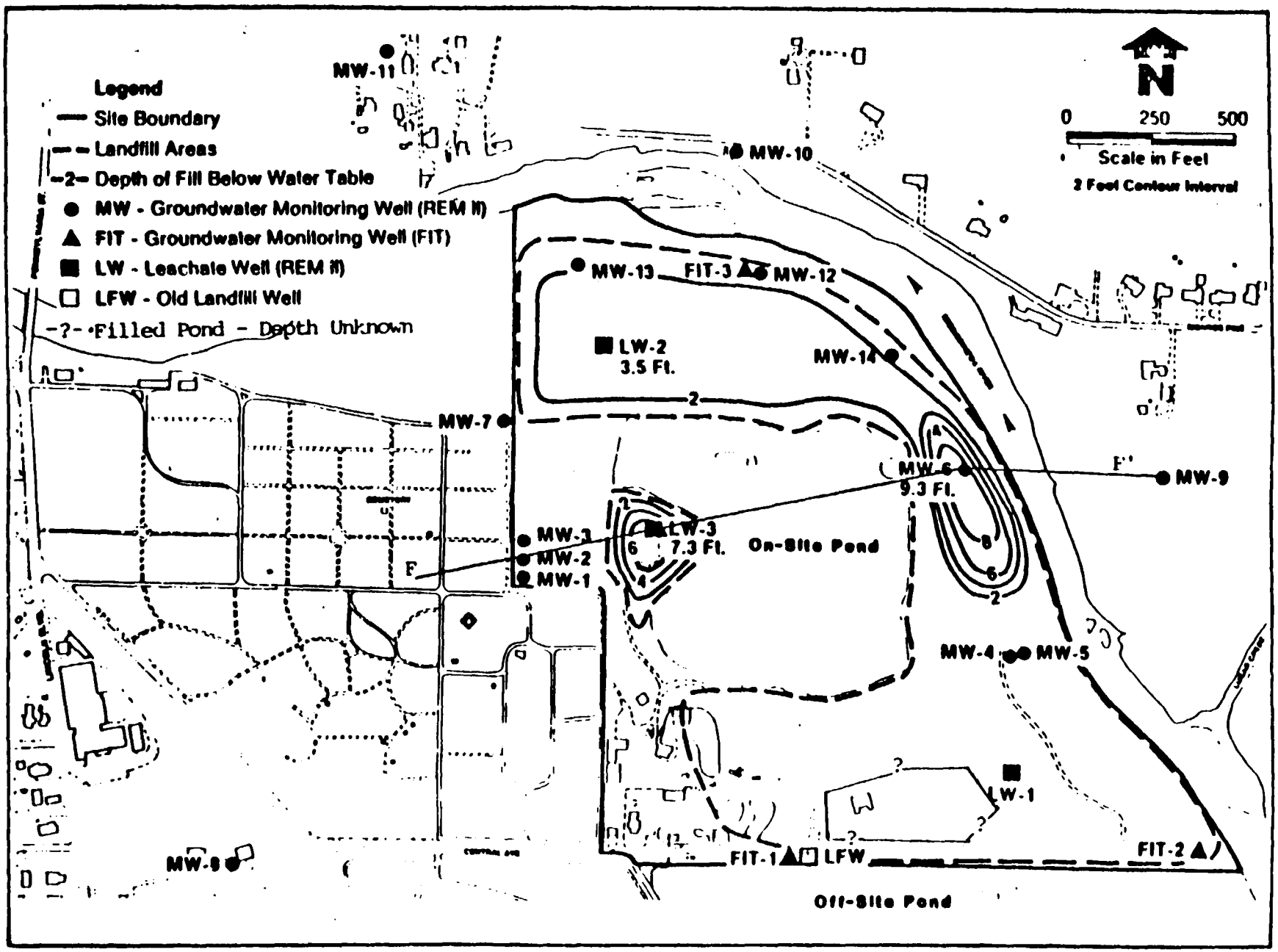


FIGURE 3 AREAS OF LANDFILL THAT ARE BELOW THE WATER TABLE MAY 27 AND JULY 23, 1986 - MARION/BRAGG LANDFILL

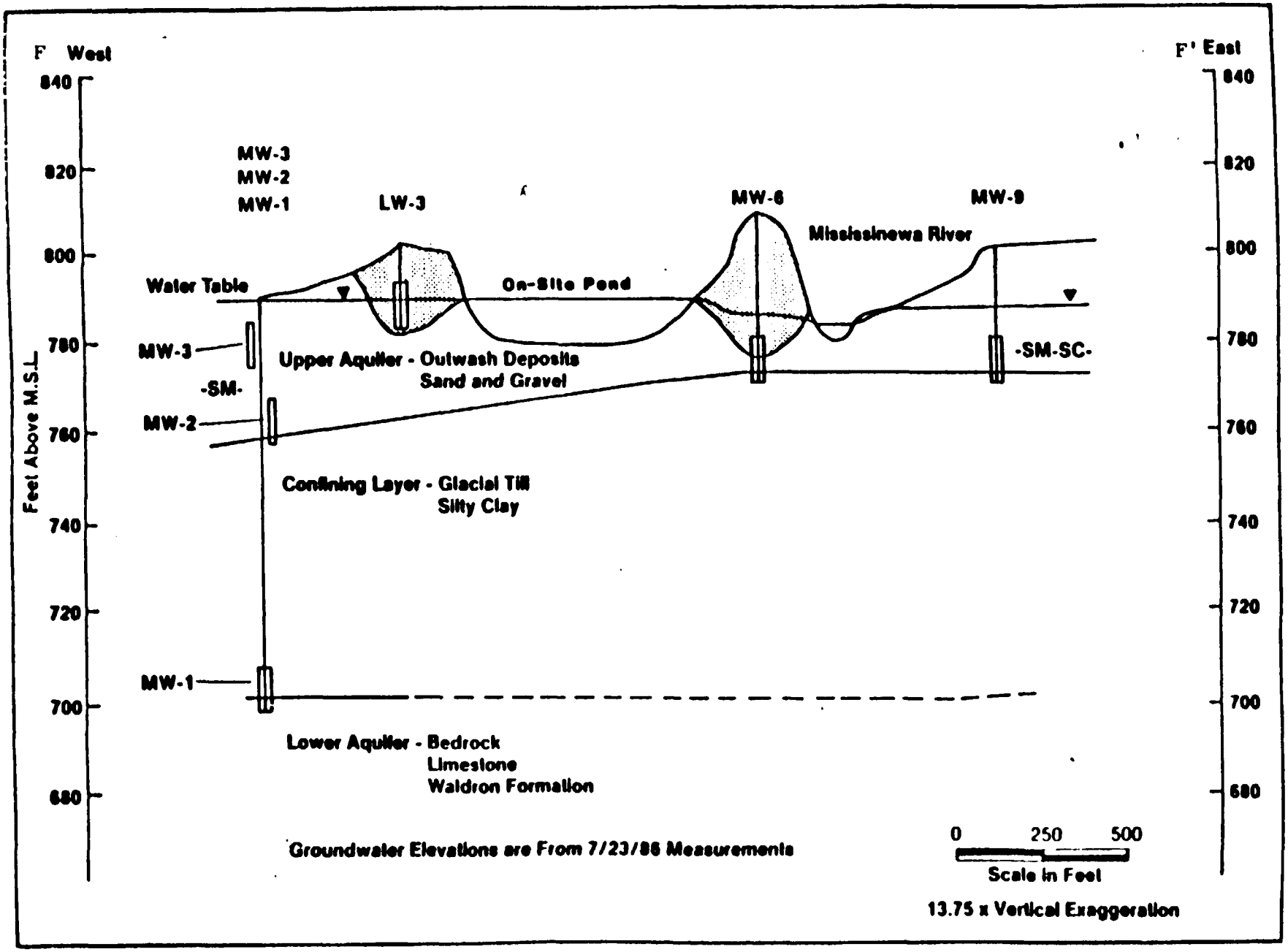


FIGURE 4 GEOLOG CROSS SECTION F-F' MARION/BRA LANDFILL

1) Surface Soils and Landfill Contents

a) Contaminants and Pathways of Exposure

Surface soil samples were collected to determine if hazards exist because of the contaminants present. Five samples were taken from the landfill surface, and one sample was taken adjacent to the asphalt plant, off of the landfill area. Each sample was a composite of five grab samples in a 50-foot radius. These data were evaluated relative to background soil concentrations.

The contaminants of concern were Bis (2-ethylhexyl) phthlate, cadmium, lead, mercury and several polycyclic aromatic hydrocarbons (PAHs). The presence of PAHs is likely due to both the landfill and the existing asphalt plants. PAH concentrations were highest in the sample near the asphalt plant. Only one other sample had a significant concentration. This was located on the northern part of the landfill, away from both asphalt plants. Cadmium and lead were also present at low levels in at least five of the six locations.

Two leachate seeps are present on the landfill surface. One leachate seep discharges directly into the on-site pond. The other leachate seep is on the south center section of the site. It is present most of the year. The seep follows the surface drainage direction off-site to the south and toward the large off-site pond on the East Side Cove property. The contaminants of concern are arsenic and most of the other inorganic metals.

Because the surface soil is contaminated, receptors (wildlife and human) may inhale, ingest and contact hazardous compounds directly. Contaminated soils may also be transported off-site during rain events. This action, over time, could result in greater exposure of landfill contents as well.

b) Risk to Receptors

Risks above 1×10^{-6} are associated with direct contact with soils due to PAHs in the surface soils (average: 2×10^{-7}, maximum: 5×10^{-5}) and arsenic in the leachate seep (average: 4×10^{-7}, maximum: 8×10^{-6}). The hazard indicies for these matrices for noncarcinogenic effects are less than one.

2) On-Site and Off-Site Pond Water and Sediments

a) Contaminants and Pathways of Exposure

Eleven samples were taken from on-site and off-site ponds. Seven sediment samples were collected. These data were compared to background samples. Chloroform (13 ppb) and bis(2-ethylhexyl) phthalate (11 ppb) were detected once in the on-site pond. Many inorganics were detected in the on-site pond above background levels. The only sample which exceeded water quality criteria

represented a leachate seep which discharges directly into the on-site pond. Chromium and mercury were each detected once in the off-site pond below acute water quality criteria. The mercury, however, was not reproducible in the sample duplicate, nor did subsequent sampling confirm its presence.

Pond sediments contained several inorganic constituents, phthalates and some PAH compounds. Two on-site pond sediment samples had low levels of some PAH compounds. Individual PAH were present at concentrations ranging from 65 to 170 parts per billion (ppb). One off-site pond sediment sample contained a trace amount of two PAH compounds. The off-site pond is hydraulically upgradient of the landfill. It may be somewhat under the influence of the landfill from the ground water pathway, however, it is likely that surface run-off from the landfill is the greater influence on water quality. Although the southern portion of the landfill is well vegetated, it does slope toward the south and the leachate seep flows off-site toward, and likely into, the off-site pond.

b) Risk to Receptors

Risks were considered for swimming in the on-site pond and fish ingestion for both ponds (the off-site pond is not used for swimming). The risks presented for these activities were not above the 1×10^{-6} point of departure, and the hazard index for noncarcinogenic effects was less than one. There are two possible weaknesses in this assessment. First, the risk assessment did not rely on actual fish data. Instead, bioaccumulation factors from available literature values were used. Such bioaccumulation pathways are not well studied and the modeling of fish contaminant uptake has a high degree of uncertainty. The risks (or lack of risk) estimated at this time may or may not reflect actual or potential risks due to the site.

PAHs and inorganics present in the pond sediments, in general, do not tend to bioaccumulate. The predominant method for the accumulation of chemicals by fish is presumed to be absorption through the gills from the water, not from the sediments or through the food chain. Sediments may be a critical source of chemicals for aquatic life that dwell or feed primarily on the bottom. There is very little information on the relative contribution of sediments to chemical residues in aquatic life. Literature values do not exist for sediment uptake by fish, therefore it can not be modeled.

Second, the surface waters (with the exception of the leachate seep flowing into the on-site pond) met water quality criteria to the extent that this criteria was above detection limits. However, the difficulty with the water quality criteria is that many of the inorganic constituents have levels set for protectiveness of either the aquatic life or human consumption which are well below

analytical detection limits. Therefore, it is conceivable that bioaccumulation could be occurring either from the sediments or the water, which is not evident based on existing data. Bioassay work is needed to determine if a risk is present to human health from this surface water/sediment pathway.

Sediment data, in general, are difficult to evaluate because there are no criteria. Region V has developed a database for inorganics from the Great Lakes Harbor sediments. This provides a relative concentration range for comparing non-polluted, moderately polluted and heavily polluted sediments. In comparing the inorganics to the pollutional classification suggested in this database, only one sediment location was noted to be a potential concern by the U.S. Fish and Wildlife service. This was at the leachate seep in the on-site pond.

3) Ground Water

a) Contaminants and Pathway of Exposure

The ground water beneath the site discharges to the river. Ground water exposure is an incomplete pathway because no one is currently using the aquifer beneath the site as a water supply. The risk estimate was based on potential future use.

Thirteen wells were drilled around the site perimeter, eight of the wells were drilled through the landfill. Since this site borders the river, there is no plume or downgradient area to sample, except for the river. Therefore, the monitoring wells had to be drilled through the fill material and screened in the aquifer below.

Since any release from a facility is a potential problem, all chemicals present are of concern. Benzene, trichloroethylene and bis-(2-ethylhexyl) phthalate are present most frequently and above criteria. Most of the heavy metals were detected only once in the ground water beneath the site. These are generally below the MCL, where available, but above the fresh water aquatic life criteria. Arsenic is an exception. It is above the MCL in three of the samples, but detected at lower levels frequently. In general, the contaminants were detected at low levels. (Table 2)

b) Risk to Receptors

The public health evaluation presumed future land use as a recreational area, where drinking water wells would be required. Exposure would be infrequent, but would occur over at least a 10-year period. This resulted in a lifetime risk range of 7×10^{-6} to 5×10^{-4} due to arsenic. Without the arsenic, the maximum risk was estimated at 3×10^{-7}. The hazard index for noncarcinogenic effects was less than one.

Table 2

Summary of Groundwater Sampling Results

Norton/Bragg Landfill 01/15

CONSTITUENTS	INVESTIGATIVE SAMPLES(a) NO. OF POSITIVE DETECTIONS/ NO. OF VALID OBSERVATIONS(c)	INVESTIGATIVE SAMPLES(a) RANGE OF DETECTION	BACKGROUND SAMPLES(b) NO. OF POSITIVE DETECTIONS/ NO. OF VALID OBSERVATIONS(c)	BACKGROUND SAMPLES(b) RANGE OF DETECTION	STANDARDS AND CRITERIA: SAFE DRINKING WATER ACT MCL	SDWA PROPOSED MCL	SDWA MCLG	SDWA PROPOSED MCLG	CLEAN WATER ACT: PROTECTION OF HUMAN HEALTH INGESTING WATER AND ORGANISMS	CWA HUMAN HEALTH INGESTING ORGANISMS ONLY	CWA PROTECTION OF FRESHWATER AQUATIC LIFE ACUTE	CWA PROTECTION OF FRESHWATER AQUATIC LIFE CHRONIC	EXCEEDS STANDARDS AND CRITERIA: HUMAN HEALTH	EXCEEDS STANDARDS AND CRITERIA: FRESHWATER AQUATIC LIFE
UPPER AQUIFER														
VOLATILES,(ug/l)														
1,1 Dichloroethane	1/21	.92	0/7	ND	--	--	--	--	--	--	--	--	--	--
Benzene	9/21	1.5 - 12	1/7	5	5	--	0	--	.66 (e)	40 (e)	5300 (g)	--	Y	N
Chlorobenzene	4/21	6 - 16	0/7	ND	--	--	--	60	488 (d)	15,850 (d)	19,500 (g)	--	N	N
Ethylbenzene	4/21	1.9 - 9	0/7	ND	--	--	--	680	1400 (d)	3280 (d)	32,000 (g)	--	N	N
Styrene	1/21	3.5	0/7	ND	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	1/21	.78	0/7	ND	--	--	0	--	.8	78	5280 (g)	840 (g)	Y	N
trans 1,2 Dichloroethene	4/21	.26 - 20	0/7	ND	--	--	--	70	--	--	155,000 (g)	--	N	N
Trichloroethene	5/21	0.9 - 7.1	0/7	ND	5	--	0	--	2.7 (e)	81 (e)	45,000 (g)	--	Y	N
Xylenes(total)	3/21	2.3 -7.3	0/7	ND	--	--	--	440	--	--	--	--	N	--
SEMIVOLATILES,(ug/l)														
1,4-Dichlorobenzene	1/21	14	0/6	ND	75	--	75	--	400 (d)	2600 (d)	1120 (g)	763 (g)	N	N
Benzoic Acid	1/21	950	1/6	5	--	--	--	--	--	--	--	--	--	--
bis-(2 ethylhexyl)phthalate	9/21	9 - 1000	0/6	ND	--	--	--	--	15,000 (d)	50,000 (d)	11,100 (g)	3 (g)	N	Y
Di-n-Butylphthalate	1/21	99	0/6	ND	--	--	--	--	34,000 (d)	154,000 (d)	940 (g)	--	N	N
INORGANICS,(ug/l)														
Arsenic	10/21	11 - 70	0/6	ND	50	--	--	50	.0022 (e)	.0175 (e)	360 (f)	190 (f)	Y	N
Barium	21/21	39 - 1640	6/6	36 - 111	1000	--	--	1500	--	--	--	--	Y	
Beryllium	1/21	6	1/6	.4	--	--	--	--	.0037 (e)	.0641 (e)	130 (g)	5.3 (g)	Y	Y
Cadmium	1/21	5	0/6	ND	10	--	--	5	10 (d)	--	17.1 (f,h)	3.2 (f,h)	N	Y
Iron	12/21	232 - 10700	0/6	ND	--	--	--	--	--	--	--	--		
Lead	1/21	6	0/6	ND	50	--	--	20	50 (d)	--	429 (f,h)	14.8 (f,h)	N	N
Magnesium	21/21	26000-83000	6/6	21400 - 36700	--	--	--	--	--	--	--	--		
Manganese	2/21	424 - 641	5/6	20 - 415	--	--	--	--	--	--	--	--		
Silver	1/21	9.2	0/6	ND	50	--	--	--	50 (d)		58.2 (f,h)	.12 (f)	N	Y
Sodium	21/21	9100-253000	6/6	11100 - 27400										
Zinc	1/21	118	6/6	16 - 97	--	--					947 (f,h)	47 (f,h)	N	Y

a) Groundwater samples - GW02, GW03, GW04, GW05, GW06, GW07, GW10, GW11, GW12, GW13, GW14, and GW15

b) Background Samples - GW08, GW09, GW16, and GW17

c) Number of samples in which chemical was detected over the total number of samples analyzed.

d) For Toxicity Protection

e) For 10E-6 Carcinogenicity Protection

f) EPA Ambient Water Quality Criteria

g) Lowest Reported Toxic Concentration

h) Values shown are based on an average groundwater hardness of 360 mg/l as CaCO3.

ND - Not Detected

Note: Results from unfiltered samples are not included in this table.

The risk present in the ground water beneath the source is likely to vary from one area to another due to varying waste types and resultant ground water concentrations. The maximum risk was estimated by using the highest concentrations of all contaminants found. (Table 3)

Parameters other than the priority pollutants are also a concern because they can indicate unacceptable water quality. Parameters of concern here are ammonia and chemical oxygen demand (COD). Ammonia is a product of degrading organic material. The ammonia ranged from 0 to 24 milligrams per liter (mg/l) and the average ground water COD was about 600 mg/l. There are no drinking water standards for these parameters.

Since the ground water discharges to the river, several parameters are of potential concern for protection of fresh water and aquatic life. These are discussed below.

4) The Mississinewa River

a) Contaminants and Pathway of Exposure

The Mississinewa River is the major ground water receptor. During the winter, river water levels were slightly higher than the summer. In both phases of field investigation, the river was at average flow (about 600 cfs). Ten water samples and six sediment samples were collected. The river did not show signs of being impacted by priority pollutants. Sodium was detected in the river water north of the site at levels above background. This is likely to be landfill related. Beryllium and silver were detected in one sediment sample downstream of the site. This may be a result of off-site migration of surface soils, due to the flood pathway between this sample location and the site. This is uncertain since these contaminants were found only once, at a low level.

Certain water quality indicator parameters were analyzed for in order to evaluate whether or not the landfill may be impacting water quality in a way which is not characterized by priority pollutants. Ammonia and chemical oxygen demand (COD) were again the key indicator parameters. The COD did not vary significantly between upstream, near-site or downstream. Ammonia was present above water quality criteria in two samples taken north of the site. One sample was taken from a backwater channel (5.6 ppm) and the other was taken at the river edge (3.2 ppm). Ammonia was also detected above background, but below water quality criteria east of the site (.6 ppm). The State of Indiana river standard for ammonia is .8 ppm in the summer and 1.13 ppm in the winter. This standard is pH and temperature dependent.

North of the site there is a backwater channel which flushes when the river is at a high level, but otherwise exists as a stagnant pool. The extent to which samples north of the site represented an impact from the landfill versus the backwater channel is uncertain. Ammonia is toxic to aquatic life, and the criteria represent the minimum conditions necessary to support aquatic life.

TABLE 3

EXPOSURES AND RISKS ASSOCIATED WITH INGESTION OF UPPER AQUIFER GROUND WATER[a]

Carcinogens	Upper Aquifer Concentrations (mg/liter)		Chronic Daily Intake--70-kg Individual, Prorated over a 70-Year Lifetime (mg/kg/day)		Cancer Potency Factor $(mg/kg/day)^{-1}$	Risk (upperbound)	
	Average	Maximum	Average	Maximum		Average	Maximum
Arsenic	0.006	0.078	4.5×10^{-7}	5.5×10^{-5}	1.5×10^{1} (A)	7×10^{-6}	5×10^{-4}
Benzene	(b)	0.012	ND	5.4×10^{-6}	2.6×10^{-2} (A)	ND	1×10^{-7}
Bis(2-ethylhexyl) phthalate	0.0065	1.000	5.0×10^{-7}	4.5×10^{-4}	6.8×10^{-4} (B2)	3×10^{-10}	3×10^{-7}
Trichloroethene	(b)	0.007	ND	3.1×10^{-6}	1.1×10^{-2} (B2)	ND	3×10^{-8}
Tetrachloroethene	(b)	0.001	ND	4.5×10^{-7}	5.1×10^{-2} (B2)	ND	2×10^{-8}
Total						7×10^{-6}	5×10^{-4}

Noncarcinogens	Upper Aquifer Concentrations (mg/liter)		Chronic Daily Intake--70-kg Individual, 10 years (mg/kg/day)		Risk Reference Dose (mg/kg/day)	Hazard Index (CDI/RfD)	
	Average	Maximum	Average	Maximum		Average	Maximum
Barium	0.202	1.64	1.5×10^{-4}	5.1×10^{-3}	5×10^{-2}	3×10^{-3}	1×10^{-1}
Beryllium	(b)	0.006	ND	1.9×10^{-5}	5×10^{-3}	ND	4×10^{-3}
Bis(2-ethylhexyl) phthalate	0.0065	1.000	3.5×10^{-6}	3.1×10^{-3}	2×10^{-2}	2×10^{-4}	1×10^{-1}
Cadmium	(b)	0.005	ND	1.6×10^{-5}	3×10^{-4}	ND	5×10^{-2}
Chlorobenzene	(b)	0.016	ND	5.0×10^{-5}	3×10^{-2}	ND	2×10^{-3}
1,4-Dichlorobenzene	(b)	0.014	ND	4.4×10^{-5}	2×10^{-2}	ND	2×10^{-3}
trans-1,2-Dichloroethene	(b)	0.020	ND	6.3×10^{-5}	1×10^{-2}	ND	6×10^{-3}
Di-n-butylphthalate	(b)	0.099	ND	3.1×10^{-5}	1×10^{-1}	ND	3×10^{-4}
Ethylbenzene	(b)	0.009	ND	2.8×10^{-5}	1×10^{-1}	ND	3×10^{-3}
Silver	(b)	0.009	ND	2.8×10^{-5}	3×10^{-2}	ND	9×10^{-3}
Xylenes (Total)	.008	0.007	2.2×10^{-6}	2.2×10^{-4}	1×10^{-1}	2×10^{-4}	2×10^{-3}
1,1-Dichloroethene	(b)	0.001	ND	3.1×10^{-6}	1.2×10^{-1}	ND	3×10^{-5}
Tetrachloroethene	(b)	0.001	ND	3.1×10^{-6}	2×10^{-2}	ND	2×10^{-4}
Styrene	(b)	0.003	ND	9.3×10^{-6}	2×10^{-1}	ND	5×10^{-5}
Lead	(b)	0.006	ND	1.9×10^{-5}	1.4×10^{-3}	ND	1×10^{-2}
Manganese	.432	0.441	3.2×10^{-4}	1.3×10^{-4}	2.2×10^{-1}	2×10^{-3}	6×10^{-3}
Zinc	(b)	0.118	ND	3.7×10^{-4}	2.1×10^{-1}	ND	2×10^{-3}
Total						$<1 (5 \times 10^{-3})$	$1 < (3 \times 10^{-1})$

[a] Only chemicals of concern detected in the upper aquifer and for which quantitative health effects criteria are available were included in this assessment. Benzoic acid, iron, magnesium, and sodium were not evaluated. See text and tables 5-5, 5-20, and 5-22 for details.

[b] Means were not calculated when only one sample was positive and [illegible] detection limit. These chemicals were evaluated in the plausible maximum scenario only.

not reported when the calculated mean was less than

b) Risk to Receptors

No current human health risk is estimated for recreational use of the river near the site. However, the FS did examine ground water discharge concentrations which would allow protection of the river, its uses and the biota. This is based on possible low river flow conditions. This approach is typically used under the National Pollutant Discharge Elimination System (NPDES) to establish discharge limits. The impact of a discharge on a river's water quality is based on minimum dilution which is represented by the lowest seven consecutive day flow occurring statistically once every 10 years (Q7/10) in a specific reach of the river. Limits developed using minimum dilution provide maximum protection of aquatic communities.

Given the groundwater contamination flow from the site, and the river flow, the resulting contaminant concentration in the river can be estimated. This is a simple dilution equation. Taking a slightly different approach, the on-site concentration allowed to protect the river at the low flow can be estimated. This NPDES approach is not required, but provides a logical means for estimating potential risk to the river. Under this scenario, two potential problems became apparent, the inorganics and ammonia. Aquatic species are very sensitive to low concentrations of some inorganics. Most inorganics of concern were not detected more than once on-site. Only longer term monitoring could determine their significance. Arsenic, however, is high on-site and has the potential to affect humans consuming fish. The aquatic life criteria for protection of fish ingestion is .0175 ppb. Since this level cannot be analytically detected in the surface water, arsenic released from the site could be bioaccumulating at a very low level. In addition, the on-site ground water ammonia levels have the potential to adversely impact aquatic life in the river. This is particularly a concern since elevated ammonia concentration have been detected in the river. In two samples, it was above the State of Indiana water quality criteria.

Based on this assessment, the Remedial Investigation (RI) and Feasibility Study (FS) conclude that there is no currently identfied risk to the river, but the potential for such risk does exist.

5. Asphalt Plant Effluent

The asphalt plant operates about half of the year. Effluent from the Marion Paving Company asphalt plant is discharged to the on-site pond via a surface drainage ditch. The effluent is a result of gravel washing. It was sampled to determine whether or not contaminants found in the on-site pond could logically be attributed to this source. The discharge contained a significant amount of inorganic contaminants, mostly associated with the high total solids content of the water. This source is not expected to contribute significantly to the inorganic contaminants within the on-site pond. The COD

in the effluent was high and likely contributes some oxygen demand within the pond, however, pond COD values were not significant.

Public Health Evaluation Summary

Table 4 summarizes the potential risks associated with the Marion/Bragg Landfill. These potential risks are above the 1×10^{-6} point of departure for carcinogenic risk for two pathways: surface soils and ground water consumption. As noted before, the PAHs causing the risk in the surface soils are a result of both the landfill and the asphalt plants. The hazard index for noncarcinogenic effects is less than one in all matrices.

III. Enforcement Summary (see appendix 1)

IV. Alternatives Evaluation

Remedial action goals were presented in the Marion/Bragg FS report to address each of the site hazards or exposure pathways identifed. They were identified for each of the following operable units: surface soils and on-site wastes, ground water, and on-site pond and sediments. The alternatives were also designed to comply with § 121 of SARA. The extent to which each alternative meets the remedial action goals and complies with SARA is discussed relative to the evaluation criteria provided by Section 121(b)(1).

A. Remedial Action Goals

1) Surface Soils (incl. Leachate Seeps) and On-Site Wastes (Landfill Contents)

Minimize Direct Contact - Minimize risk to public health and environment from direct contact or ingestion of landfill contents, contaminated surface soil, surface leachate seeps or seep sediments.

Control Migration Off-Site and to Surface Waters - Minimize and mitigate the overland migration of contaminants from leachate seeps and contaminated surface soils which may flow or be washed off-site or to the surface waters.

Minimize Migration to Ground Water - Minimize the leaching of contaminants from contaminated soils and landfill contents into the ground water to adequately protect the surface water receptors.

2) Groundwater

Minimize Direct Contaminant Consumption - Minimize possible future risk to public health from direct consumption of contaminated ground water.

TABLE 4

SUMMARY OF POTENTIAL RISKS ASSOCIATED WITH EXPOSURE TO MARION/BRAGG CHEMICALS OF CONCERN[a]

Pathway/Chemical	Frequency of Detection	Hazard Index for Noncarcinogenic Effects: Average	Hazard Index for Noncarcinogenic Effects: Maximum	Lifetime Excess Cancer Risk (Upperbound): Average	Lifetime Excess Cancer Risk (Upperbound): Maximum
Direct Contact with Soils					
Leachate Seep Area					
Arsenic	1/1	NQ	NQ_{-3}	4×10^{-7}	8×10^{-6}
Total	—	4×10^{-3}	9×10^{-2}	4×10^{-7}	8×10^{-6}
Surface Soils					
PAHs (Carcinogenic)	13/42[b]	NQ	NQ_{-1}	2×10^{-7}	5×10^{-5}
Total	—	2×10^{-3}	6×10^{-1}	2×10^{-7}	5×10^{-5}
Swimming in On-site Pond					
Total	—	6.4×10^{-3}	2.3×10^{-3}	NQ	3×10^{-8}
Consumption of Fish from On-Site Pond					
Total	—	3.7×10^{-2}	2.2×10^{-1}	NQ	2.10^{-7}
Consumption of Fish from Off-Site Pond					
Total	—	NQ	7×10^{-4}	NQ	NQ
Consumption of Groundwater from Upper Aquifer					
Arsenic	7/19	NQ	NQ_{-1}	7×10^{-6}	5×10^{-4}
Total	—	5×10^{-3}	3×10^{-1}	7×10^{-6}	5×10^{-4}

[a] The individual chemicals of concern presented in this table are those that may pose a potential risk; they are defined as chemicals exhibiting noncarcinogenic effects for which the hazard index of exposure is greater than one, or the chemicals exhibiting carcinogenic effects for which the upperbound risk from exposure is greater than 10^{-6}.

[b] None of the individual carcinogenic PAHs were detected more frequently than 2/6 monitoring samples.

NQ = Not Quantified.

Control Migration to Surface Water - Manage migration of contaminated groundwater to the on-site pond and the Mississinewa River to provide adequate protection of surface water quality and aquatic life habitats, and the human ingestion of aquatic organisms.

3) On-Site Pond and Sediments

Minimize Direct Contact - Minimize the human exposure potential to the on-site pond from swimming and ingestion of aquatic organisms.

B. Alternatives Considered

Six alternatives (plus No Action) were developed to meet the above remedial action goals. These are described in detail in the FS. The alternatives were assembled in a building block manner so that any or all of the operable unit components could be addressed (i.e.: cap, cap and ground water). A wide range of subalternatives were provided because there are several ways of achieving the remedial action goals in a cost-effective way. Each alternative has four subalternatives based on two cost sensitive variables. The first variable concerns regrading of the existing landfill surface prior to capping. Both capping alternatives have minimum grade requirements to promote rain run-off and prevent erosion. This requires that either a significant amount of off-site borrow material be used on the existing surface to bring it up to grade, or that the existing surface be regraded to achieve the required grade before capping.

The second subalternative considers whether the on-site pond operable unit component is addressed. The pond water is a receptor for the contaminated groundwater. Since this pathway is a concern, options for minimizing potential exposure were evaluated. In leaving the pond open, long-term monitoring and site access restrictions are presumed. The other approach would be to eliminate the pathway by backfilling, and thereby eliminate the need for monitoring and access restrictions.

These two variables are assembled as subalternatives.

i) Cap installed over existing fill with pond remaining open
ii) Cap installed over existing fill with pond backfilled
iii) Cap installed after regrading existing fill with the pond remaining open
iv) Cap installed after regrading existing fill with the pond backfilled.

In total, there are 24 subalternatives to consider. All alternatives, except no action, include replacement of shallow wells, fencing and flood protection. Deed restrictions will also be sought from the land owner, regardless of the alternative selected. The components of the six alternatives are presented below.

Alternative 1 -- Indiana Sanitary Landfill Cap and Monitoring

Alternative 1 includes fencing, a two-foot clay-type cap and six inches of topsoil to reduce infiltration, promote runoff and eliminate off-site migration of contaminated soils and leachate seeps. This alternative addresses all of the operable unit goals except one. It does not aggressively manage the migration of groundwater to the surface water(s). The exposure pathway from groundwater to surface water is still present in this alternative. This alternative reduces infiltration through the landfill from 13.0 to 4.13 inches (70%). It meets the technical requirements for Subtitle D landfill capping under the State of Indiana regulation. This alternative minimizes, but does not eliminate, leaching of contaminants to the ground water. The alternative relies upon monitoring to ensure that levels protective of the surface water(s) and their uses is still achieved. If protective levels are exceeded then additional remedial actions would be indicated. Alternative 1 would cost between $6.8 million and $19.7 million in present worth (cost variations due to regrading and backfilling the on-site pond).

Alternative 2 -- Multi-layer (RCRA) Cap and Monitoring

Alternative 2 is the same as alternative 1 except that the cap is a RCRA multi-layer cap. This reduces infiltration to zero and meets the technical requirements for landfill capping for site closure under RCRA. This alternative does not address the groundwater and monitoring is still needed to ensure that levels protective of the surface water(s) and their uses is still achieved. Additional remedial action would be needed if protective levels are exceeded. Alternative 2 would cost between $11.2 and $25.6 million in present worth (cost variation due to regrading and backfilling the on-site pond).

Alternative 3A -- Indiana Sanitary Landfill Cap, Slurry and On-Site Ground Water Treatment

Alternative 3A includes the sanitary landfill cap, a slurry wall to minimize off-site migration and groundwater pumping, and on-site groundwater treatment. The on-site treatment facility would consist of activated carbon adsorption for low level organics and COD removal, and an air stripping system for ammonia removal. Pilot studies would be required before implementation of the remedy for slurry wall/waste compatibility and to ensure that the carbon adsorption ground water treatment system can remove the low level of inorganic contaminants. Since the landfill is not supported on the river's edge, the slurry wall would need to be installed 70 to 95 feet from the edge (i.e., through the landfill material). This would result in some portion of the landfill remaining outside the slurry wall (approximately 1.6% of the total waste volume).

Neither the slurry wall or the cap are impermeable. The ground water inside the wall would need to be pumped and treated. Sufficient water would be pumped to maintain an inward gradient, thus preventing any contaminants from seeping out.

This alternative would meet all of the remedial action goals. Monitoring would still be required to ensure effectiveness of remedy and to comply with the NPDES discharge permit from the on-site treatment facility. Alternative 3A is estimated to cost between $12.4 million and $25.1 million in present worth (cost variation due to regrading and pond backfilling).

Alternative 3B -- Indiana Sanitary Landfill Cap, Slurry Wall and Discharge of Ground Water to Marion POTW

This alternative contains all the same technical considerations as described for alternative 3A except that the Marion Publicly Owned Treatment Works (POTW) would provide the treatment and discharge under their NPDES permit. Alternative 3B is estimated to cost between $11.8 million and $24.5 million in present worth (variation in cost due to regrading and pond backfilling).

Alternative 4A -- Multi-layer (RCRA) Cap, Slurry Wall and On-Site Ground Water Treatment

Alternative 4A combines the RCRA cap discussed in alternative 2 with groundwater treatment. This alternative would meet the remedial action goals to the maximum extent practicable. The RCRA cap reduces the amount of ground water requiring treatment. The water which passes through the slurry wall or enters the pond from rainfall (if the pond is left open) would require treatment. The on-site treatment system would consist of carbon adsorbtion and air stripping. The cost for implementation of this alternative ranges from $16.7 million to $30.9 million in present worth (cost variations due to regrading and pond backfilling).

Alternative 4B -- Multi-layer (RCRA) Cap, Slurry Wall and Discharge of Groundwater to Marion POTW

Alternative 4B is similar to 4A except that the ground water would be treated at the Marion sewage treatment plant. This alternative meets the remedial action goals and costs between $16.1 million and $30.2 million in present worth (cost variation due to regrading and pond backfilling).

Alternative 5 -- No Action

The No Action Alternative is required by the National Contingency Plan. It provides a baseline for comparison of other alternatives.

C. Evaluation Criteria

Table 5 presents a brief qualitative summary of how the alternatives were evaluated against the human health and environmental goals expressed in Section 121 of the SARA amendments. The costs presented in this table presume the site will be regraded. This reduces the presentation of costs. Appendix 2 contains the cost summary for all 24 subalternatives.

Evaluation Summary

Capping alternatives 1 and 2 provide protection of public health and the environment from the risks associated with the surface soils and leachate seeps. Both alternatives reduce infiltration and therefore the leachate generated; both will prevent contaminated surface soil from discharging to surface waters or off-site, and both caps meet the technical specifications for landfill closure requirements which may be relevant and/or appropriate. Neither alternative, however, addresses the groundwater pathway in terms of direct human consumption or discharge to surface waters. Therefore, both alternatives rely on monitoring to ensure that the levels released are not above action levels. If action levels are exceeded, groundwater pump and treat or other active protective actions will be required.

Alternatives 3A, 3B, 4A and 4B address capping requirements and the groundwater pathway (with the option of pond open or backfilled). To the maximum extent practicable, all these alternatives address elimination of potential pathways of concern. The slurry wall eliminates off-site migration of ground water and reduces the amount of water requiring treatment. However, some waste must be left on the outside of the slurry wall in order to support the wall. The RCRA cap further reduces the amount of ground water to be treated, but maintenance requirements, especially repair work may be expensive. Both the on-site and off-site groundwater treatment system are technically feasible. The off-site treatment system would be more reliable since the operation and maintenance is already done by the city POTW. Further characterization may be required to determine if the ground water pumped from the Marion/Bragg site can be accepted at the Marion POTW.

TABLE 5 - Matrix Evaluation of Alternatives

Alternative	Cost (in Millions) Cap*	O&M*	PW*	Effectiveness: Public Health Protectiveness	Effectiveness: Environmental Protectiveness	Implementability: Technical Feasibility	Implementability: Administrative Feasibility
1) Sanitary Landfill Cap				Prevents direct contact threat from surface soils, but does not eliminate threat from ground water or from on-site pond(if open).	Would limit, but not prevent contact of ground water with landfill contents and subsequent discharge to the Mississinewa River.	Will significantly reduce infiltration, but long-term monitoring will be required. One construction season needed for implementation.	Long-term enforcement of site access and deed restrictions uncertain.
pond open	5.8	1.0	6.8				
pond closed	13.4	1.1	14.5				
2) RCRA Cap				Prevents direct contact threat from surface soils, but does not eliminate threat from ground water or from on-site pond (if open).	Would limit, but not prevent contact of ground water with landfill contents and subsequent discharge to the Mississinewa River.	Maintenance requirements of the cap, especially repair of the impermeable membrane, are substantial because of likely landfill differencial setting. Will significantly reduce infiltration, but long-term monitoring will be required. One construction season needed for implementation.	Long-term enforcement of site access and deed restrictions uncertain.
pond open	10.0	1.2	11.2				
pond closed	19.1	1.2	20.3				
3A) Sanitary Cap and Ground-water Treatment on-site				Extraction and treatment of ground water would significantly reduce potential risks.	Minimal effects during construction.	Compatability testing of bentonite with waste prior to construction needed. One construction season needed for implementation.	NPDES permitting may significantly delay the construction.
pond open	10.9	1.4	12.4				
pond closed	18.8	1.2	19.8				
3B) Sanitary Cap and Ground-water Extraction, treatment at POTW				Extraction and off-site treatment of ground water would significantly reduce potential risks.	Minimal effects during construction.	Compatability testing on bentonite with waste prior to constuction needed. One construction season needed for implementation.	POTW acceptance of the discharge must be approved by Indiana Office of Water Management.
pond open	10.7	1.0	11.8				
pond closed	18.4	.8	19.2				
4A) RCRA Cap and Ground-water Treatment on-site				Extraction and treatment of ground water would significantly reduce potential risks.	Minimal effects during construction.	Maintenance requirements of the cap, especially repair of impermeable membrane, are substantial because of likely landfill differential setting. One construction season needed for implementation.	NPDES permitting may significantly delay construction.
pond open	15.2	1.5	16.7				
pond closed	24.3	1.3	25.6				
4B) RCRA Cap and Ground-water Extraction, treatment at POTW				Extraction and off-site treatment of ground water would significantly reduce potential risks.	Minimal effects during construction.	Maintenance requirements of the cap, especially repair of impermeable membrane, and substantial because of likely landfill differential setting. Compatability testing of bentonite with waste prior to construction needed. One construction season needed for implementation.	POTW acceptance of the discharge must be approved by Indiana Office of Water Management.
pond open	15.0	1.0	16.1				
pond closed	24.1	.8	24.9				
5) No Action	No Cost			Potential health risks associated with contact with contaminated soils, surface water and ground water will remain.	Contaminants spread to Mississinewa River.	None	Not Applicable

*Capital costs/Operation & maintenance/Present worth

D. Rationale for Selection of an Interim Remedy

The ground water beneath this facility is contaminated with a low level of various organic and inorganic constituents. Given that hazardous wastes were mixed, or co-disposed with other trash, and that some volume of this trash is perennially saturated, the contaminant levels found during the RI are likely to continue for a long time.

The general response objectives require that human health and the environment (in this case, surface waters) be protected from existing and potential future contamination. In protecting human health from exposure to ground water, two options are available; use institutional controls to prevent exposure, or pump and treat the aquifer. For surface water protection there are also two options available; establish as Alternate Concentration Limit (ACL), which essentially says that existing levels are protective, or pump and treat the aquifer in order to protect the river.

SARA specifically addresses Superfund sites which are adjacent to surface water bodies. § 121 (d)(2)(B) discusses the use of water quality criteria and releases to surface waters. In some circumstances, it is acceptable to establish an ACL or alternate contaminant level for releases to surface waters. There are two restrictions on use of this provision. There can be no statistically significant increase of constituents from the ground water in such surface water at the point of entry or any point where there is reason to believe accumulation of constituents may occur downstream; and the remedial action includes enforceable measures that will preclude human exposure to the contaminated ground water at any point between the facility boundary and all known or projected points of entry of such ground water into surface water.

The FS examined possible action levels based on protectiveness of the river at the Q7/10. This is a very protective approach since the Q7/10 does not occur frequently. Based on this approach, the inorganics and ammonia have the potential to impact the surface water at the low flow. The on-site ground water levels were above levels allowed by the NPDES model, yet these were not significant in the river samples (except for two ammonia data points).

A ground water remedy at the Marion/Bragg landfill should be carefully considered. If ground water treatment is required to protect human health or the environment, the resulting slurry wall and treatment scenario would last in perpetuity. On the other hand, the sensitive water quality criteria for inorganics, especially arsenic, and the presence of ammonia, suggest that a potential threat to aquatic resources does exist. In order to be conservative in selecting a ground water remedy to ensure protectiveness, additional ground water studies are recommended. These studies will focus on the general toxicity, if present, of this ground water on the surface waters or to humans through fish ingestion.

The ground water treatment alternatives 3A, 3B, 4A and 4B are being deferred at this time. When the final ground water remedy is selected, U. S. EPA will either select an appropriate ACL or action level and allow ground water discharge to continue, or select a ground water treatment alternative already investigated in the FS. This approach assumes a land use restriction is enforceable.

Enforceable institutional controls play an important role in selecting the final ground water action and determining the fate of the on-site pond, which is also a point of surface water exposure. CERCLA itself does not give that type of enforcement authority, yet requires enforceable land use restrictions to prevent human exposure as an element of the ground water option if releases continue. The State of Indiana lacks legal authority to bar uses of property for such activities as well drilling and excavation, that might interfere with the capping of the site. The Region will attempt to negotiate a voluntary restrictive covenant with the property owner, and expects that the PRPs will assist in these negotiations. The operable unit for the on-site pond will also be deferred until the ground water remedy is selected since the two operable units are related.

Alternatives 1 and 2, capping alternatives, remain for consideration for this operable unit. In comparing the two capping alternatives with respect to the evaluation criteria and the site-specific technical aspects, alternative 1, the sanitary landfill cap, was selected. This rationale is further documented in Section VI of this Record of Decision.

V. Recommended Alternative

U.S. EPA's recommended alternative is alternative 1. (Figure 5) The major components of the alternative are: access restrictions, residential well replacement, flood protection, clay-type cap, installation of ground water monitoring wells and additional study of the surface waters. The alternative includes regrading of the site, but defers action on the on-site pond. The capital cost is $5.7 million, the present worth of operation and maintenance is $1.0 million and total present worth is $6.8 million.

- Access Restriction

  The access restriction includes a fence to prevent site use. This preserves the integrity of the cap and prevents recreational use of the on-site pond. Access to the site would be controlled by completing the fencing around the site perimeter and posting signs. This component of the remedy will cost $54,000.

- Residential Well Replacement

  U.S. EPA seeks to secure a voluntary deed restriction to prohibit use of groundwater or installation of shallow wells on-site. As a protectiveness measure and in anticipation of an enforceable deed restriction, three existing shallow wells within the site boundary will be replaced with deep wells. The existing wells will be sealed. One well, however, maybe left open for monitoring purposes. This component of the remedy will cost $8,000.

° Flood Protection

To protect beneficial use of the floodplain, yet allow construction within the floodplain and prevent inundation of the site, flood protection will be required over the clay cap. For the purposes of cost estimation, it was anticipated that a levee would be required. This will protect the site from a 100 year flood event. The FS estimated that a levee would be approximately 2,800 feet long and be constructed of compacted soil. The cost for this component of the remedy is $385,000.

° Sanitary Landfill Cover (clay cap)

This cap includes two feet of clayey soil (10^{-6} cm/sec. permeability minimum) and six inches of topsoil.

Contaminated leachate seeps and sediments would be removed and/or covered under the clay cap in the course of regrading the surface. Waste, which is currently uncovered or protruding from the surface, would also be covered in the course of regrading. A minimum working face will be maintained during surface regrading in order to minimize the potential airborne release of contaminants. All work will be performed in a "good housekeeping" manner. Any drums or other hazardous wastes, if present, would be removed, analyzed and disposed according to RCRA requirements. If regrading fails to eliminate the seeps, then seep collection would be required. Disposal of seep leachate would be based upon its chemical characteristics.

Eight additional monitoring wells are recommended. These would be placed as close to the landfill edge as possible. These wells would best represent ground water quality as it enters the surface water.

The cap will be covered with six inches of topsoil and seeded to control erosion and promote evapotranspiration. This component of the remedy, including grading and site construction, will cost approximately $3,075,000.

° Monitoring

Contaminant migration would be assessed through a regular groundwater and surface water monitoring program. Priority pollutant analysis will be conducted on a semi-annual basis. Parameters at various locations requiring confirmation will be resampled on the alternate quarter. Selected indicator parameters will be included in the analyses every quarter. It is estimated that 10 groundwater wells, 3 on-site pond locations and 5 river locations will be included in the quarterly analyses. The existing leachate wells and the off-site pond will also be sampled occasionally. Should the ground water results remain relatively consistent over time, monitoring may not need to be as extensive.

° Determine the effectiveness of the clay cap

The key element of this interim remedy is to determine its effectiveness before implementing other remedial actions. The monitoring data gathered before and after installation of the clay cap will be evaluated to determine the effectiveness of this interim remedy. Design and construction of the cap may require 1 1/2 to 2 years. It will take approximately 2.2 years for the aquifer beneath the site to move from the south through the north to the Mississinewa River. Groundwater samples taken during and after that period should demonstrate the effectiveness of reduced infiltration on leachate generation and subsequent groundwater contamination.

° Additional Studies

The additional studies will include fish bioassay work for the on-site and off-site ponds and the river. Indicator parameters will be selected from the volatiles, PAHs and inorganic constituents. In addition, general toxicity tests will be performed on the river to determine if ammonia or other constituents in the ground water cause a toxic effect on the aquatic environment. These general tests may be modeled after the toxicity tests that NPDES dischargers are subject to, or employ other approaches as may deemed appropriate by U.S. EPA.

VI. Statutory Determinations

SARA §121 requires that the comparison of alternatives take into account the following factors:

(1) long-term uncertainties of land disposal;
(2) the goals and objectives of the Solid Waste Disposal Act (RCRA);
(3) the persistence, toxicity, mobility and propensity to bio-accumulate hazardous substances;
(4) short- and long-term potential for adverse human health effects;
(5) long-term maintenance costs;
(6) the potential for future remedial action costs if the chosen remedy were to fail; and
(7) the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment.

SARA further requires that the selected remedy be protective of human health and the environment, attain applicable or relevant and appropriate standards, use treatment technologies to the maximum extent practicable, and be cost-effective.

The Feasibility Study considered all these factors during screening of alternatives and recommendation of a final remedy. Appendix 3 contains the applicable or relevant and appropriate requirements for this site.

This section describes how the selected remedy will comply with the statutory requirements in SARA §121, generally referred to as the cleanup standards.

A. Consistency With Other Laws (Compliance with ARARs)

SARA requires that remedial actions meet legally applicable or relevant and appropriate requirements of other environmental laws. These laws may include: the Toxic Substances Control Act, the Safe Drinking Water Act, the Clean Air Act, the Clean Water Act, the Solid Waste Disposal Act (RCRA), and any state law which has stricter requirements than the corresponding federal law.

A "legally applicable" requirement is one which would legally apply to the response action if that action were not taken pursuant to §104 or §106 of CERCLA. A "relevant and appropriate" requirement is one that, while not "applicable" is designed to apply to problems sufficiently similar that their application is appropriate.

The following is a description of environmental laws which are legally applicable or relevant and appropriate to different components of the remedy, and an explanation of how this remedial action meets those requirements.

1. Landfill Closure Requirements

Neither the sanitary landfill requirements of Subtitle D or the RCRA Subtitle C requirements are directly applicable. This landfill accepted some hazardous waste before the passage and effective date of RCRA, but was not a hazardous waste landfill. Therefore, the jurisdictional prerequistes are not met for either subtitle. Both subtitles were designed to apply to landfills. The Marion/Bragg landfill is a sufficiently similar circumstance such that both laws are considered relevant.

The site was viewed in terms of the component parts for the total site remedy, or operable units. Each component was compared to the requirements of both Subtitle C and Subtitle D which were sufficiently similar. This interim remedy, and the final remedy, will comply with the requirements which are determined to be the most appropriate. For example, the flood protection requirement complies with RCRA, CWA (and other State of Indiana requirements which are not specifically stated in the Subtitle D regulation), and the cap complies with sanitary landfill requirements. The future ground water remedy must also consider the appropriateness of RCRA corrective actions, ground water protection requirements or other standards.

2. Soil/Capping Requirements

Alternatives 1 and 2 address capping requirements for the Marion/Bragg landfill. Alternative 1 complies with the State of Indiana Sanitary Landfill capping requirements. Alternative 2 complies with the RCRA capping requirements. Both caps are protective and meet respective statutory requirements.

The State of Indiana has jurisdiction for Subtitle D, sanitary landfill operation and closure laws. This is covered by the Solid Waste Management Board Regulation Title 329 IAC. This regulation is currently under revision. This regulation applies to those facilities which operated in accordance with the stated requirements and did not accept hazardous waste. The existing regulation is more general than the proposed regulation, and relies on guidance and final approval of the permit writer. The proposed regulation codifies previous requirements. The existing and the proposed standards are technically equivalent. The FS incorporated the greater level of technical detail offered by the proposed standard. Not unlike the general RCRA cap requirements, this cap seeks to minimize infiltration by specifying clay type, and promote drainage by specifying sloping and topsoil requirements. This also accommodates subsidence and minimizes maintenance.

RCRA Subtitle C requirements for caps as proposed in alternative 2 can also be considered. The RCRA regulation is applicable to those facilities which operated after promulgation of the regulation in 1980 and/or were granted interim status to operate in the manner provided by the regulation. This regulation requires that the cap minimize liquid migration, minimize maintenance, promote drainage, accommodate subsidence and be less permeable than the bottom liner. Since waste from regrading will be consolidated on-site, RCRA Land Ban Requirements will not be triggered.

Distinguishing which regulation is most applicable, when both are relevant, requires a review of site-specific technical considerations. The Marion/Bragg Landfill has a portion of the waste saturated within the upper aquifer. This water table aquifer will fluctuate up and down within the waste as dictated by seasonal hydrologic conditions. This fluctuation was noted in the RI. Although it is clear that reducing infiltration will reduce leachate generation, the low concentration of ground water contamination may be more influenced by seasonal fluctuations in the water table/waste saturation interface. Therefore, the zero infiltration provided by the RCRA cap will not likely result in a commensurate reduction in existing ground water concentrations. In addition, the nature of the codisposal operations at the landfill, the very permeable nature of the existing cap material and the fact that leaching has been occurring for a very long time now, suggests to U. S. EPA that the existing levels of ground water contamination are not likely to significantly increase. Therefore, between the two caps, the Subtitle D sanitary landfill capping requirements were considered to be the most appropriate.

3. Floodplain and Wetlands Protection

The State of Indiana regulation I.C. 13-2-22, Indiana Flood Control Act, regulates construction in a floodplain. The U.S. EPA also has a floodplains and wetlands policy which

serves similar objectives, as does RCRA 40 CFR 270.14(b)(11)(iv). Any construction which occurs in a floodplain must minimize the loss of floodplain and provide floodproofing for anything which must be constructed in that area. Appendix 4 shows the floodplain area and levee which must be constructed around the landfill. The flood control levee will border the west, north and one half of the eastern side of the landfill. This is a performance based goal. The FS evaluated a levee as the best means of complying with requirements. Other technical means of achieving the requirements may be available. The actual design is subject to appoval from the U. S. Army Corps of Engineers, U. S. Fish and Wildlife Service, Indiana Department of Natural Resources, in addition to U. S. EPA and IDEM.

B. Use of Permanent Solutions, Alternative Treatment and/or Resource Recovery Technologies (Reduction of Toxicity, Mobility or Volume)

Permanent solutions provided by treatment technologies were considered for this landfill, but were screened out before detailed analysis due to technical and cost considerations. This is detailed in the FS.

Incineration of the entire landfill was considered. On-site incineration was considered, even though it would require a waiver from existing State of Indiana regulations. These regulations prohibit the use of mobile or temporary incineration facilities within the state. On-site incineration would require at least 25 years, require waste pretreatment and is not very amenable to the high level of inorganics present in the landfill. The cost would be approximately $404 million.

Existing RCRA permited off-site incineration facilities were considered. Waste restrictions and/or pretreatment requirements were a significant limitation. In addition, existing capacity at these facilities limits their ability to dispose of the 1.1 million cubic yards of waste present at Marion/Bragg. Assuming this was not a limitation, it would still take 100 years to accomplish the objective, at a cost of approximately $3,439 million. (Costs were based on the use of SCA Incinerator.)

Given the numerous technical limitations, incineration as a means of permanently reducing toxicity and mobility was eliminated. Significant volume reduction would not occur with incineration because the resultant ash volume would be great. Capping in place does provide some reduction in contaminant mobility, but not toxicity or volume.

C. Short-Term Effectiveness

Short-term effectiveness considers such things as risks posed to the community during remedial action implementation, time required to complete remedial action and the subsequent reduction in existing risks. It is anticipated that remedial actions will require one construction season to complete. During that time some wastes

will be exposed due to regrading of the surface. U. S. EPA proposes to use "good housekeeping" procedures to minimize the airborne release of contaminants and minimize the working face of the regrading operations. The workers on-site will also have appropriate personal protection. Once remedial action is complete, the remedial action goals stated in section IV of this Record of Decision will be met.

D. Long-term Effectiveness and Permanence

It is clear from the screening of technologies in the FS, that this landfill will need to be contained in place. The contents will remain in-tact and therefore will require long term operation and maintenance and periodic review of the effectiveness. SARA §121(c) requires that EPA review remedial actions where any hazardous substances, pollutants, or contaminants remain at the site, no less often than every five years after initiating the remedial action. This review should assess whether the remedial action is truly protective of human health and the environment and determine whether any further action is necessary.

Since this is an interim remedy, the long-term effectiveness and permanence is best evaluated when the ground water component is resolved. However, one of the goals of this interim remedy is to determine its effectiveness in reducing leachate generation. The extensive monitoring data which will be provided over the next few years will aid in the evaluation of the effectiveness and permanence provided by any subsequently selected ground water action.

E. Implementability

Capping a landfill with clay is a very conventional technology, considered reliable in the long term and it does not require specialized expertise. Design approvals will be required from several Federal and State offices in order to ensure that technical requirements are met. Once design is complete, construction is expected to take only one construction season.

F. Cost and Cost-effectiveness

The capital, operation and maintenance and total present worth costs for alternatives 1 and 2 were considered. Should the ground water require treatment, the reduction in infiltration provided by the RCRA cap reduces the amount of ground water to be treated and correspondingly reduces the O&M costs. However, this savings is off-set by the possible higher costs involved in RCRA cap maintenance. Therefore, there are no long-term savings provided by the RCRA cap over the sanitary landfill cap. In fact, the total present worth costs of O & M are slightly less for the clay cap than for the RCRA cap.

G. Community Acceptance

This site has not seen a significant amount of community involvement. This is likely because few people are directly affected by the landfill. Comments on the FS provided by the Potentially Responsible Parties (PRPs) suggest that the actions proposed by the Agency in this Record of Decision are reasonable, but expensive. Instead of capping under Subtitle D requirements, they suggest maintenance of the existing cap material. In addition, they suggest that flood protection can be provided more cheaply and as effectively by means other than a levee. This Record of Decision specifies a performance based response to the flood protection goal. The PRPs can offer alternative means of achieving the goal in the design phase.

The municipal officials are concerned about the possible cost of the remedy and their potential liability. They do not feel the tax payers would be amenable to paying for the remedy. These comments are addressed in the responsiveness summary.

H. State Acceptance

The Indiana Department of Environmental Management has been a party to the RI/FS through their technical input, and concurs on the selected interim remedy. IDEM also recognizes their cost share and O & M responsibilities.

I. Overall Protection of Human Health and the Environment

This remedy has been evaluated according to the criteria listed in SARA §121. This remedial action will eliminate a direct contact threat associated with existing surface soils, leachate seeps and exposed debris. It will also prevent the off-site migration of contaminated surface soils to surface waters. Fencing the site to restrict access will prevent use of the on-site pond on an interim basis. Replacing the three existing shallow residential drinking water wells will provide long-term protection against the potential for any future contamination. Futhermore, this remedy will be consistent with any final ground water actions.

VII. Consistency with National Contingency Plan

The National Contingency Plan, 40 CFR Part 300.68(i)(1), states that the appropriate extent of remedy shall be a cost-effective remedial alternative that effectively mitigates and minimizes threats to and provides adequate protection of public health and the environment. The selected remedy will attain relevant and appropriate Federal and State public health and environmental requirements that have been identified for the Marion/Bragg site. Based upon the analysis of the options, State and Federal environmental requirements, and comments received from the public and the State, the recommended option has been determined to be consistent with Section 300.68.

VIII. Future Schedule

Good Faith proposal by PRPs to undertake Remedial Action	October, 1987
Conclude all negotiations	December, 1987
Begin Remedial Design	Fall, 1987/Spring, 1988
Complete Remedial Design	Fall, 1988
Complete Remedial Action	Summer/Fall, 1989
Determine effectiveness of interim remedy and select final ground water remedy	Fall, 1991

It is possible that a final ground water remedial action can be selected as soon as Spring, 1989. If the additional studies demonstrate that the existing ground water does not adversely impact the surface waters, action levels can be established which are protective of human health and the environment.

List of Appendicies

Appendix 1 -- Enforcement Summary (CONFIDENTIAL)

Appendix 2 -- Cost Summary for all alternatives

Appendix 3 -- Applicable or Relevant and Appropriate Requirements for the Marion/Bragg Landfill

Appendix 4 -- Floodplain and levee control area

Appendix 5 -- Community Relations History and Responsiveness Summary

Appendix 6 -- Administrative Record Index

Appendix 7 -- State of Indiana Concurrence

ENFORCEMENT SUMMARY
1 PAGE

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMEDIAL ACTION

Appendix 2 -- Cost Summary for all alternatives

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Appendix 3 -- Applicable or Relevant and Appropriate Requirements for the Marion/Bragg Landfill

COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
MARION/BRAGG LANDFILL SITE

REGULATION, POLICY OR LAW	APPLICABILITY	RESPONSE	ALTERNATIVES 1	2	3A	3B	4A	4B	5
FEDERAL									
Resource Conservation and Recovery (RCRA) Subtitle C	Closure of Hazardous Waste Facilities	This alternative meets RCRA capping requirements.		X			X	X	
		This alternative meets RCRA closure requirements.					X	X	
40 CFR 264.116	Deed Restriction	State of Indiana has jurisdiction.	X	X	X	X	X		
40 CFR 264.14 264.117(b)	Access Restriction	Meets RCRA requirements if implemented.	X	X	X	X	X	X	
40 CFR 264.310(b)(5)	Monitoring Surface Run-Off (Final Cover)	Surface water management system would comply with RCRA requirements.	X	X	X	X	X	X	
CFR 264.90 3008(h) 3004(u)	Contamination Levels, Monitoring, Treatment	Action levels in on-site pond, groundwater and Mississinewa river will be set by U.S. EPA.	X	X					

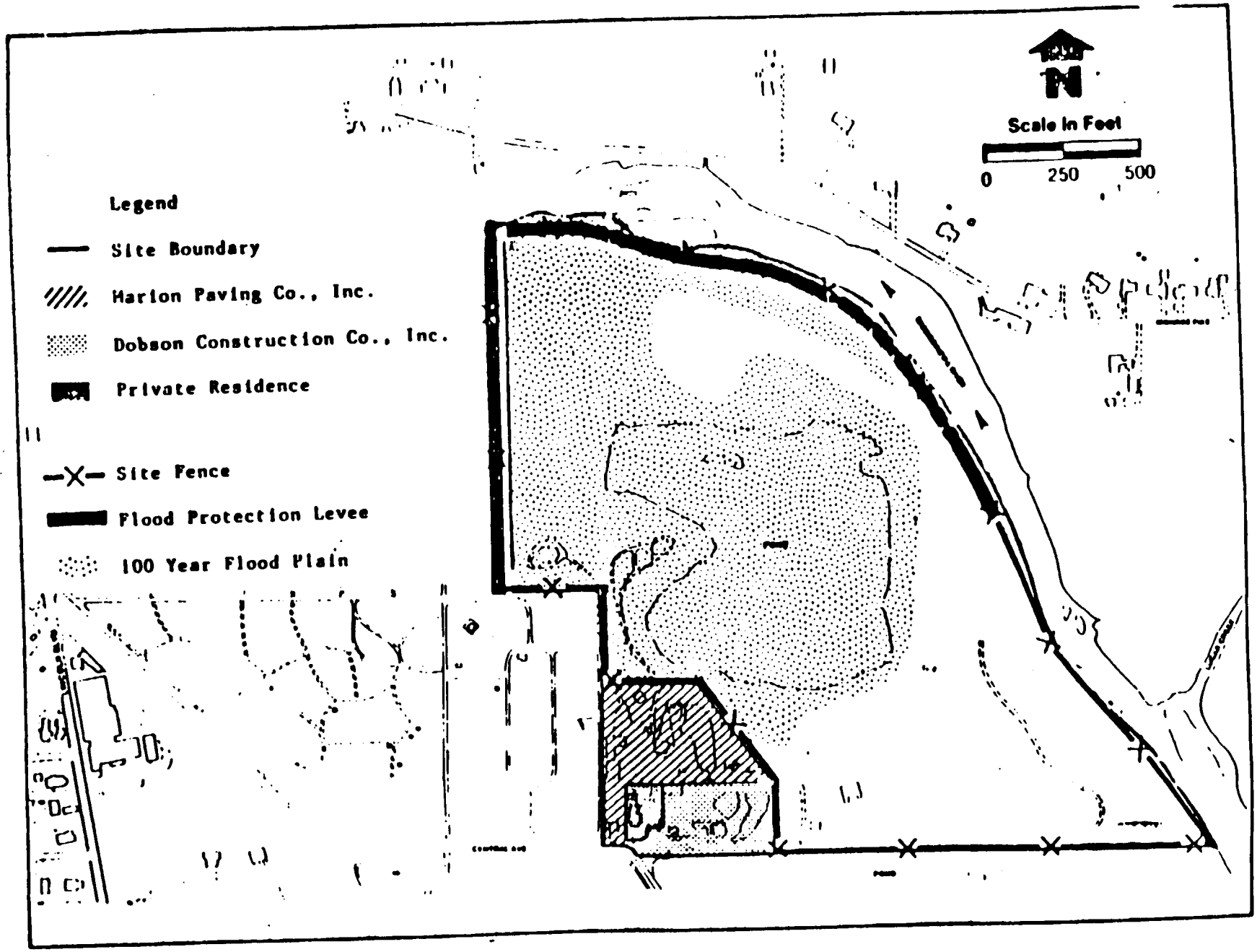
COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
MARION/BRAGG LANDFILL SITE

REGULATION, POLICY OR LAW	APPLICABILITY	RESPONSE	ALTERNATIVES 1	2	3A	3B	4A	4B	5
40 CFR 264.310	RCRA Landfill Cover Systems	This alternative meets RCRA capping requirements.		X			X	X	
		This alternative meets RCRA Closure requirements.					X	X	
40 CFR 270.14	Slurry Wall	Slurry wall will be located behind the flood control levee.			X	X	X	X	
40 CFR 264.340(c)	Treatment/Incineration	None of the alternatives involve treatment or incineration of landfill contents.							
40 CFR 262 & 263	Groundwater Storage	None of the alternatives involve the storage and surface transportation of contaminated groundwater.							
40 CFR 261.4(a)(2)	Groundwater Discharge	Discharge of groundwater to Mississinewa River would comply with CWA, Section 402.			X		X		
40 CFR 264.114	Decontamination of Equipment	Equipment decontamination procedures will be followed during construction.	X	X	X	X	X	X	
Clean Air Act (CAA)	Incineration/Treatment	None of the alternatives involve incineration or treatment of hazardous soil.							
Clean Water Act (CWA)	Regulates Discharge of Water into Rivers	State of Indiana has jurisdiction over issuance of NPDES permits (See state ARARs).			X		X		

COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
MARION/BRAGG LANDFILL SITE

REGULATION, POLICY OR LAW	APPLICABILITY	RESPONSE	ALTERNATIVES 1	2	3A	3B	4A	4B	5
STATE OF INDIANA									
Indiana Dept. of Environmental Management (IDEM)									
Indiana Hazardous Waste Management Program (IHWMP) - 320 IAC-4	Regulates Closure of Existing Hazardous Waste Facilities	This alternative is in compliance with IHWMP.		X			X		
Indiana Waste Treatment Facilities Regulation (IWTFR) 330 IAC-3.1	Authorizes and Regulates Waste Treatment Facilities	This alternative provides for an on-site treatment facility and complies with IWTFR.			X		X		
Industrial Waste Water Pretreatment and NPDES Program 330 IAC-5(1-10)	Regulates Discharges to State Waters NPDES	This alternative will require an NPDES permit.			X		X		
Pretreatment Standards 330 IAC-5(11-15)	Regulates Discharge to POTW	This alternative includes discharge of contaminated groundwater to Marion POTW.				X		X	
Indiana Water Quality Standards Stream Pollution Control Board 330 IAC 1&2(b)	Establishes Water Quality Standards for the State	This alternative is subject to compliance with Indiana Water Quality Standards.	X	X	X		X		
Title 329 (Proposed) Solid Waste Management Board 329 IAC 2-8-(4,7) 2-9-(2,3)	Regulates Solid Waste Landfill Closure	This alternative will comply with proposed solid waste regulations.	X		X	X			
Dept. of Natural Resources Division of Water									
Indiana Flood Control Act I.C.13-2-22	Regulates construction in a flood plain	This alternative is subject to compliance with DNR Division of Water requirements.	X	X	X	X	X	X	
LOCAL									
City of Marion Municipal Code Ord. 8-1981	Regulates discharge to municipal sewer system.	This alternative is subject to the requirements of the Marion sewer use code.				X		X	

Appendix 4 -- Floodplain and Levee Control Area



Access Restrictions, 100 Year Flood Plain, Flood Protection Levee
All Alternatives Except No Action

Appendix -- 5 Community Relations History and Responsiveness Summary

Marion/Bragg Landfill
Responsiveness Summary

Section I. Overview

Section II. Background on Community Involvement and Concerns

Section III. Summary of Major Comments Received during the Public Comment Period and EPA Responses to the Comments

Section IV. Remaining Concerns

I. Overview

The United States Environmental Protection Agency (U.S. EPA) presented a preferred alternative in the feasibility study. This was available at the beginning of the five and one half week public comment period. Only the Potentially Responsible Parties submitted comments. Judging from the comments received, the PRPs support the remedial action goals, but suggest that the risks posed by the site do not warrent the cost of response presented in the FS. These comments are addressed in Section III.

II. Background on Community Involvement and Concerns

Very little interaction has occured with the community of Marion. Most of the people who attended the RI/FS kick-off meeting were those homeowners living adjacent to the existing landfill. These people wanted U. S. EPA to close this facility. They were also concerned about acceptable levels of arsenic (detected in their wells). The citizens were advised of the MCL and advised to submit any analytical data to the State. They were also advised that the State has authority for sanitary landfills, not U. S. EPA. This landfill is now closed and this group of citizens did not attend the FS public meeting.

The municipal officials are concerned about the possible cost of the remedy and their potential liability. They don't feel the taxpayers would be amenable to paying for the remedy. These comments are addressed in the responsiveness summary.

III. Summary of Major Comments Received during the Public Comment Period

Comments were received from the following parties:

1) Mr. J.B. Smith of Beckman, Kelly and Smith on behalf of Mr. Delmar Bragg;

2) Mr. Spitzer of Browne, Spiter, Herriman, Browne, Stephenson & Holderead on behalf of General Plastics Corporation;

3) Mr. Browne of Browne, Spiter, Herriman, Browne, Stephenson & Holderead on behalf of the City of Marion and the Marion Utility Services Board;

4) Mr. Cromer of Mishkin, Cromer, Eaglesfield & Maher P.A. on behalf of RCA Corporation; and,

5) Mr. Hanson of Beveridge & Diamond, P.C. on behalf of the Steering Committee. This Steering Committee is comprised of the following firms:

1. Dana Corporation
2. General Electric Corporation
3. General Motors Corporation
4. Central Waste Systems, Waste Management Corporation of North America, Inc.
5. RCA Corporation
6. Owens-Illinois, Inc.
7. American National Can Company

There were three types of comments submitted; technical, legal and party specific. Comments from parties 2, 3 and 4 listed above incorporate by reference, comments submitted by Mr. Hanson. These comments will be categorized by relevant topic. The comments had to be paraphrased in order to fit them into the summary. The reader is referred to the actual reports and comments available at the public repository (Marion Public Library).

A. Technical

ERM, acting as technical consultant to Mr. Hanson and the Steering Committee, submitted a report divided into 6 Sections; each addressing a specific portion of the RI/FS. U.S. EPA will respond by section as well.

Section 1 - Introduction

This is an executive summary of all comments contained in Sections 2 through 5.

U.S. EPA Response: These comments will be addressed by general topic in the subsequent sections.

Section 2 - Remedial Investigation - Hydrogeology

Comment 1. The geophysical information was referenced in the RI, but data and results are not contained within the report.

EPA Response: The EPA contractor, Roy F. Weston, through the REM II contract, was not tasked to complete the geophysical work. The geophysical work was completed by the Agency (in-house). The contractor was present to aid in data interpretation and to ensure project continuity. The geophysical data and interpretation report was available at the public repository at the time of public comment.

Comment 2. Minor errors were made in developing contour maps showing the groundwater surface, particularly at MW-12 and FIT-3.

EPA Response: The contour lines were not in error. The head differences in MW-12 and FIT-3 are due to an upward vertical gradient from the ground water discharge to the river (similarly at MW-4 and MW-5).

This is common near major rivers and supports the assessment that the river is a hydraulic barrier. See RI p.2-27, 2nd paragraph.

Section 3 - Remedial Investigation - Quality Assurance/Quality Control

Comment 1. The organization charts presented in the QAPP (pages 3-2 and 3-3) give names of individuals responsible for QA reviews, yet no reviews were present in the RI/FS.

EPA Response: The flow charts presented are not site-specific, but refer to the entire National Superfund program under REM II, beginning with the Hazardous Site Control Division in Headquarters (Fig. 3-1 REM II Organizational Charts) to the Camp, Dresser & McKee (CDM) Regional representive of Quality Assurance (Fig. 3-2 REM QA Organization). Under the REM II contract, there are rigorous QA requirements. The procedures and actual requirements are documented in the contract itself and the established Standard Operating Procedures (SOPs). The QAPP documents how this site fits into the QA/QC responsibilities under the REM II contract.

On a site specific basis, the project tasks must include a line item for project QA (See the Work Plan). Each deliverable, including the QAPP has an organizational sign-off sheet which shows the individuals who have reviewed the deliverable to ensure it meets all requirements, thus demonstrating the QA system meets its intended purpose.

Comment 2. No report on the data quality was presented in the RI report (reference to Figure 9-1 of the QAPP).

EPA Response: This figure refers to the data flow at CRL. The REM II contractor is not responsible for analysis of samples or data validation. Analysis is handled through the CRL and CLP systems under a different contract, and the data review is done by EPA. The labs are responsible for data QA in accordance with the CLP contact, SOPs and other guidance. The QC review is done in-house on every data package. A summary page of comments is prepared by the EPA data reviewer concerning the use, and qualifications for use, of the data. These qualifiers are present on the data in the RI. No data quality report is prepared or required because it is specific to the data package itself. These reviews are available with the raw data package. Since the raw data is massive, it is made available by request only.

Comment 3. CRL Lab audit reports do not appear in the RI.

EPA Response: They do not belong in a site-specific RI. These are not performed by the contractors, but by U.S. EPA. They serve to ensure that each lab meets the performance standards established by U.S. EPA under the CLP system. In doing so, quality data is ensured for each site. The QAPP describes where audit freqency, responsibilities and SOP references are located. Audit results of a specific lab can be made available upon request.

Comment 4. Data review procedures are not documented (QAPP Section 13).

EPA Response: Data review procedures follow specific EPA guidance. Site-specific documentation is not required. A list of all relevant EPA guidance was provided at the repository.

Comment 5. Corrective action requirements are not documented in the RI (QAPP Section 14).

EPA Response: Laboratories which have sample specific problems are required to call the specified Region V EPA data reviewer. This chemist will advise on corrective action procedures. The corrective action resolution is documented by the lab on the the individual data package.

Comment 6. No QA/QC section is provided in the RI (QAPP Section 15).

EPA Response: Subsequent to QAPP approval, it was determined that this task was unnecessary for the following reasons: 1) Data review is an Agency function; the contractor is merely the recepient of the qualified data and has no direct review authorities; 2) To be interpreted correctly, the data packages must be viewed individually. A summary may generalize the data and cause confusion in interpretation or use; 3) Such a summary would be a duplication of the Agency's work.

Comment 7. Appendix A, page 2 is unacceptable
Comment 8. One half hour is insufficient data review time
Comment 9. The cyanide data presented in Appendix A may have QA/QC problems associated with it which may invalidate the basis for scoring the site.

EPA Response: In reviewing the QAPP from the commentor's perspective, it is now clear why Appendix A of the QAPP would lead to the above questions. Appendix A should have been more clearly labeled. It is the raw data package summary for the HRS scoring of the site. The Region V QA office always requests a summary of existing data available at the site in order to evaluate whether the analytical range presented in the QAPP will meet the site's Data Quality Objectives. No RI data had been gathered before the QAPP, therefore, the site scoring data was submitted. (Site scoring data is under the purview of a different QAPP.) With respect to the cyanide, the holding times can be tracked if needed. If the holding times were exceeded, the contract requirements would have been violated and the data rejected. The time to have submitted comments on the site scoring was in 1983 when the site was proposed for NPL listing.

Comment 10. The RI fails to document holding times, especially for SAS parameters.

EPA Response: This does not need to be in the RI. Holding times for RAS are specified in the CLP contract (and the QAPP). Holding times for SAS are specified in the SAS's attached to the QAPP. Laboratories call the EPA for corrective action procedures

if holding times are a problem. The EPA data reviewers check holding times when the data package is reviewed. Holding time was exceeded for one set of pesticides samples during this RI. EPA subsequently rejected the data. This rejected data is noted on RI p.3-13, however, the reason for rejection was not listed.

Additional EPA Response: All the above questions concerned the site specific implementation of the system established by U.S. EPA to ensure defensible data. All contractor SOPs are available for review at the Region V office. All EPA SOPs are established through guidance from Headquarters. A list of all available program guidance was provided for review in the project file at the Marion Public Library. The sections of the QAPP referred to should be almost identical between REM II projects, since the same "system" is used. In the case where a project is not conducted by REM, under the CLP system, the burden is on the project director to explain how equivalent QA/QC procedures will meet EPA requirements.

Comment 11. The definition and use of "non-detects" is arbitrary and means that every sample is considered a positive result.

EPA Response: For the purposes of this project, the selection of "chemicals of concern" and the data reduction procedures are one in the same. The procedures are described before the data is dicussed (RI p.3-3, 3-4) and again in the PHE (RI p.5-4). A geomentic mean was applied to the data set. It is a particularly good method for this site because the ground water investigation was conducted beneath the source material and there was significant variability in the concentrations detected. Geometric rather than arithmetic means were used since most collections of measurements of environmental contaminants are log-normally distributed. An arithmetic mean is "additive", where as a geometric mean is "proportional". One cannot calculate the log of zero, therefore, one half of the CRDL was arbitrarily used. Most statistics books say that X + 1 is frequently used for a zero value. Since the CRDL is used as a baseline, it is reasonable to use half of that value for zero. As noted above, this approach best suits this site and works to the commentor's favor since a geometric mean is generally lower than an arithmetic mean.

To further clarify the application to the PHE, refer to RI p. 5-4. A mean wasn't used unless at least two samples were above the CRDL. If, however, only one sample was detected above the CRDL, it was used in the maximum exposure scenario. Contaminants detected below the CRDL were not used in the PHE at all. This approach is reasonable and defensible.

Comment 12. Use of Federal water Quality criteria for leachate comparison is erroneous.

EPA Response: EPA assumes the commentor is referring to Table 3-17 (See RI page 3-51, 3rd paragrapn). The Agency agrees that

fish don't live in leachate. The RI presents the criteria merely as a reference. This is discussed in the RI p.3-51, middle paragraph.

Comment 13. Screening of data qualified as a "B" was not done according to the specified rules.

EPA Response: In general, the rules were followed. Had the commentor provided an example, EPA could provide better explanation. The EPA project manager noted that one EPA data reviewer had inadvertently misapplied the evaluation criteria with respect to the "B" qualifier. The data were rechecked and corrected. It is possible that some corrections were overlooked. This applies to typical lab contaminants such as methylene choride and the pthalates. In order to be cautious about the data, all QA/QC was checked for parameters which were sensitive to the interpretation of the PHE.

Comment 14. Typical concentrations of metals in soils are not provided.

EPA Response: Data summary tables for soils compares the investigative sample results to both the site-specific background valves and typical concentrations found in U.S. soils. See Table 3-1, 3-7 and 3-12.

Comment 15. Cyanide was not detected in the waste borings yet was the basis for site scoring.

EPA Response: The comment is noted. Three borings are not representative of the entire landfill contents. Other contaminants detected bring the site clearly within the scope of SARA.

Comment 16. Data below CRDL is reported as being detected when concentrations below CRDL can not be detected and quantified with accuracy.

EPA Response: The data referred to in Table 5-4 is a geometric mean. The phthalate and arsenic were in error; the values should be 13.4 and 12.3 respectively. This changes the average risk due arsenic from 7×10^{-6} to 2×10^{-5}. An errata sheet will be issued. The following clarification of the definition of the CRDL is provided. The CRDL represents a minimum detection limit that all laboratories participating in the CLP program must meet. The CRDL value is actually set artificially high in order to be certain that a sufficient number of laboratories qualify for the program to meet the program capacity needs. In reality, most labs can achieve a more sensitive instrument detection limit. Any value detected is a "hard" number. It is quantified with accuracy because it is above the instrument's detection limit, and therefore within the instrument's analytical range. The results would be reproducible on any instrument which could achieve the same detection limit. The "J" value means that the result may not be reproducible (it may not be detected) if another lab were used. Another lab may not have an instrument which can achieve the same sensitivity. Defining "J" as "estimated" is a misnomer, since the value presented is not an estimate. Technically, every data value could have been used in the PHE. The CRDL provided a convenient break point for selecting chemicals of concern.

Comment 17. There is no documentation in the RI to indicate whether the inorganics were filtered or unfiltered. The application of MCLs to unfiltered samples is not justified.

EPA Response: See the last footnote on Table 3-22, page 3-56 of the RI.

Comment 18. The PAH concentrations detected on-site are typical of urban soils and are attributed to sources other than the landfill.

EPA Response: The history of the site suggests that a lot of burning occured on-site. Burning creates PAHs. The RI clearly states (page 3-22) where each sample was taken. The conclusion that EPA draws from this data is that multiple sources (i.e., the landfill and the asphalt plants) contribute to the PAH problem. PAHs were detected above site-specific background values.

Comment 19. The RI describes DDT and cadmium in background as "anomalies" and therefore may not be considering alternate sources of contamination.

EPA Response: EPA assumes the commentor is referring to page 3-34, 5th paragraph, in which case the pesticide in question is BHC, not DDT. The soil boring samples were used as site-specific background values for comparison to the waste boring (Table 3-1). Since BHC was not found in the waste boring, listing the background soil concentration is moot. The cadmium value was listed in the table. Therefore, from Table 3-1, one can conclude that the background cadmium (detected once in seven samples) is above typical soil concentrations, but the waste boring sample for cadmium is statistically significant above the background values. The commentor's remark is not clear.

Section 4 - Risk Assessment

Comment 1. Unrealistic Interpretation of the Plausible Maximum Scenario for PAH Exposure in Surface Soils.

EPA Response: EPA interprets the commentor to suggest that subchronic exosures should have been calculated, and that the site average concentration should have been used in the maximum exposure case. Both exposures scenarios are considered chronic. Exposure duration is what determines chronic or subchronic (occuring over a period of time). The difference in the exposure scenarios was frequency, not duration. Subchronic values were not needed. It is generally the Agency's procedure to look at the maximum value in the maximum exposure case. This is supported in the Superfund Exposure Assessment Manual (Aug. 17, 1984). A review of the maximum, or worst case exposure scenario is necessary to compensate for uncertainties in sampling and analysis, unknown health effects due to multiple contaminants and possible exposure to sensitive subgroups within the population. It is true that the maximum concentration for PAHs represent a specific source. This particular area leaches radially in the direction of the surface slope. The point at which it enters the pond serves as a convenient access point. Teenage kids seen fishing from the pond, have been noted at the most accessible points, on the western side of the pond. This assessment doesn't even address

the exposure to workers who are present in this area during the asphalt plant's operating periods.

Comment 2. Representation of Various PAHs with limited evidence of Carcinogenicity as Benzo (a) Pyrene.

EPA Response: The discussion presented on p. 5-56 and 5-59 very clearly states that numerous assumptions are made for PAHs in the risk assessment. Each assumption is discussed, the impacts of that assumption on the risk value presented and the appropriate EPA references which endorse the assumption are given. The nature of risk assessments is such that many assumptions must be made. Use of this group of carcinogenic PAHs is suggested in the criteria documents (attached) used to develop the SPHEM guidance. Refer to:

EPA (1984) Health Effects Assessment for Polycyclic Aromatic Hydrocarbons. Environmental Critteria and Assessment Office. September 1984. EPA 540/1-86-013. and,

EPA (1980) Ambient Water Quality Criteria for PAHs. .Office of Water Regulations and Standards, Criteria and Standards Division. October 1980. EPA 440/5-80-069.

There is a discrepancy between these criteria documents and the SPHEM with respect to the two compounds mentioned by the commentor. The Agency will request clarification of this, but would rely on the criteria development documents for the time being.

3. 4.3 Inappropriate Specification of Applicable or Relevant and Appropriate Requirements (ARARs).

EPA Response: Possible ARARs were identified throughout the entire RI, in all discussion of data. It is important to distinguish applicable from relevant and appropriate. A standard which is applicable in a given situation, meets the statutory requirements (circumstances) of the law it reflects. A relevant and appropriate requirement is not directly applicable but the circumstances are sufficiently similiar that its use is appropriate. For example, MCLs are not directly applicable to the aquifer beneath the site. However, since the aquifer is a Class II B, potential use aquifer, MCLs may be considered relevant and appropriate.

The commentor states: "These ARARs are applicable at the point of use; if concentrations of contaminants are not available at these points, the concentrations should be predicted." The Agency agrees, and did just that when predicting possible risks from consumption of the aquifer beneath the site, if it were used. The RI clearly states the ground water risk is based on potential future use. In addition, in the absence of criteria, health effects criteria such as risk reference doses or potency factors are to be considered in risk development. Therefore, ARARs presented in Chapter 5 are correctly used and the points of exposure (beneath the site) correctly referenced.

IARC (1983) has evaluated selected PAHs based on the overall weight of evidence of carcinogenicity to humans. These classifications range from Group 2A (BaP) and 2B meaning that the compound is probably carcinogenic in humans to Group 3 which indicates that there is only limited animal evidence or a paucity of evidence such that the data base is inadequate to assess the human carcinogenic potential. Some of these classifications are based on routes of exposure other than oral and inhalation. As a class, PAH-containing soots, tars and oils are most appropriately classified as Group 1 (IARC, 1983). Applying the criteria proposed by the Carcinogen Assessment Group of the U.S. EPA (Federal Register, 1984) for evaluating the overall weight of evidence for human carcinogenicity, these chemicals are most appropriately classified in Group A.

IARC has judged the following specific PAHs to be probably carcinogenic in humans, there being sufficient animal evidence and or limited human evidence. The corresponding U.S. EPA grouping (Federal Register, 1984) would be Group B1 or B2, depending on the quality of the evidence.

1. benz[a]anthracene
2. benzo[b]fluoranthene
3. benzo[j]fluoranthene
4. benzo[k]fluoranthene
5. benzo[a]pyrene
6. dibenz[a,h]acridine
7. dibenz[a,j]acridine
8. dibenz[a,h]anthracene
9. 7H-dibenzo[c,g]carbazole
10. dibenzo[a,e]pyrene
11. dibenzo[a,h]pyrene
12. dibenzo[a,i]pyrene
13. dibenzo[a,l]pyrene
14. indeno[1,2,3-cd]pyrene

Reference: EPA (1984) Health Effects Assessment for Polycyclic Aromatic Hydrocarbons. Environmental Criteria and Assessment Office. September 1984. EPA 540/1-86-013.

Further, the following compounds have limited animal evidence for carcinogenicity, however, the evidence according to IARC is inadequate for making a definitive statement about the human carcinogenic potential. The appropriate U.S. EPA classification (Federal Register, 1984) for these chemicals is Group C-Possible Human Carcinogen.

1. anthanthrene
2. benz[c]acridine
3. carbazole
4. chrysene
5. cyclopenta[c,d]pyrene
6. dibenz[a,c]anthracene
7. dibenz[a,j]anthracene
8. dibenzo[a,e]fluoranthene
9. 2 and 3-methylfluoranthenes

Comment 3. The Future Use Scenario is unrealistic.

EPA Response: The commentor's opinion is noted. The Agency did not check with the County to determine land use. However, it would not be unreasonable to assume future land use similar to existing land use (i.e. additional commercial facilities on the property, perhaps with a need for recirculating cooling water, as Marion Paving has now). Since municipal water does not extend to this area, use of the surficial aquifer is not an unreasonable assumption. Restrictions currently do not exist. Note that the home existing within the site boundry has a woman of child bearing age, with an infant (sensitive population). Many more conservative assumptions could have been made, just based on extrapolation of existing conditions. The recreational use projected for only a five or ten year period (depending on matrix) presents a rock bottom set of assumptions (which favor the commentor's view) when future conditions cannot be known.

Comment 4. Application of Data Reduction Procedures is Inconsistent.

The commentor felt that data reduction errors led to erroneous identification of chemicals of concern at the site and that use of the highest contaminant value in the maximum exposure scenario presents a misleading interpretation of the risks present at the site. The commentor also presents his interpretation of the best indicator chemicals.

EPA Response: Examples of data reduction errors were not presented, therefore, EPA has no comment on this point. Use of the highest contaminate value and the plausible maximum exposure scenario is conservative, but not unreasonable given it is at least based on existing values where future values are uncertain. See response to Comment 1, section 4. The maximum exposure scenario compensates for many data uncertainties.

The selection of indicator chemicals is not a requirement, merely a convenience when working with a large data base. This process was not necessary at Marion/Bragg. The Agency doesn't need to assess the commentor's recommended PHE procedures. The RI has already completed this task in a manner which complies with the guidelines.

Section 5 - Feasibility Study

Comment 1. Listing of Media Inconsistent

The commentor suggests that inconsistent listing of media has lead to inconsistent response objectives, which may not correspond to the PHE.

EPA Response: The FS correctly identifies the media in which the PHE identified risks, as well as the media in which the pathway for potential future risk exists. The on-site pond and/or river

were identified as presenting a current risk, however, they are exposure pathways of concern. In addition, the FS (Chapter 7) clearly states that (based on existing data) these pathways are more likely to be impacted if existing contaminant level actually increase over time. Since the Agency is required to select remedial actions which are permanent and protective, then the potential for future risk must be addressed.

Comment 2. Interim Remedy

The commentor presents an alternate view of the selected remedy elements.

5.3.1 Access and Deed Restrictions

The commentor concurs on the need.

EPA Response: The comment is noted. A point of clarification is needed with respect to the deed restriction. The land owner must provide the restriction voluntarily. The Agency does not have the authority to impose it.

5.3.2 Flood Protection Measures

The commentor feels the levee is an expensive means of achieving the goal and suggests other technical approaches which are felt to be comparable.

EPA Response: The language in the ROD has been clarified as a result of this comment. The goal stated is performance based. If the PRPs can find another means of achieving it which gains the approval of appropriate State and Federal Agencies, then U.S. EPA may accept it as well.

Comment 3. Indiana Sanitary Landfill Cap

The commentor feels the clay cap is an excessive means of preventing the direct contact threat. Further, the commentor suggests that repair work on the existing cap is all that is necessary.

EPA Response: Section 121 of SARA specifically states that the selected remedy will comply with the ARARs which are determined to be appropriate. The Subtitle D requirements are the minimum ARAR at this site. Two feet of clay would be excessive if the direct contact threat was the only concern. Congress wanted to ensure that selected remedies did not undermine the minimum protectiveness requirements considered by the regulations established under other State and Federal environmental laws. This mandate is very clear in Section 121. The sloping and capping requirements under Subtitle D serve to minimize future problems at any landfill. This minimum ARAR follows common sense and good engineering practice. This cap will be consistent with any ground water remedy, ACL or slurry wall.

Comment 4. Monitoring and Additional Investigations

The commentor suggests that additional study is not needed, only monitoring. Further, a frequency for monitoring is suggested, interpretion of the point of compliance, and action levels selected based on table 6-2 in the FS.

EPA Response: The FS clearly states that ammonia is a "potential" problem (page 7-4, 4th paragraph), and that additional data will answer whether it is an actual problem. This is a conservative and reasonable approach to make sure that the final remedy is indeed permanent and protective.

The monitoring program suggested is not sufficient. The river bank is one half mile long on the site border. Ground water quality will change because waste type and characteristics will change. In order to be protective, EPA recommended monitoring appropriate "discharge zones" (page 6-7). The action levels suggested in Table 6-2 are only "to-be-considered". The NPDES approach is logical, but there are several differences in the fundamental assumptions between an end-of-pipe discharger and a chronic discharge occurring over a one half mile stretch. The FS did not specify which of the "to-be-considered" values would be applicable since the ground water remedy was not being selected at this time. Other approaches can also be considered in the future. Refer to the RCRA ACL Determinations guidance for examples.

Comment 5. Future Remedial Actions

The commentor felt that a slurry wall was not justified by the existing risks and that the FS failed to adequately address the technical limiations associated with installation of a slurry wall through trash.

EPA Response: EPA is not recommending a slurry wall at this time. If it were needed, the FS strongly suggests that compatibility tests be performed first (Table 6-3). Table 6.8 shows the potential cost consequences if the slurry wall failed. The EPA contractor recognized the difficulties and risks associated with application of a slurry wall in a landfill environment and made adjustments for those concerns in the estimated capital cost. However, if it was necessary to prevent the ground water from reaching the river, not many technical choices are available. The FS evaluates use of a hydraulic barrier (FS Appendix A), but still suggests that the slurry wall presents the best cost and feasibility.

Comment 6. General Comments - FS

The commentor felt that the cost documentation should have been more detailed so that they could determine the reasonableness of the figures.

EPA Response: This level of cost documentation is typical of FSs. EPA has offered to make detailed cost documentation available to the PRP steering committee.

Section 6 - Conclusions

The commentor summarized all previous comments and suggests that the proposed remedy is not responsive to the risk.

EPA Response: All comments have been adequately addressed. It appears that the commentor actually concurs with EPA's response actions, but feels that the clay cap is excessive. The comments have not changed the Agency's view of the need for the selected remedy. The EPA again reminds the commentor of the requirements of SARA, particularly Section 121.

No other technical comments were submitted. The next section will summarize legal comments. This will begin with Mr. Hanson's letter.

1. Mr. Hanson of Beveridge & Diamond, P.C. on behalf of the Steering Committee.

Comment: Due Process Requires a Reasonable Comment Period and Fair Agency Procedures: They Have Not Been Provided.

The PRPs are entitled to procedural due process, and are entitled to a substantially extended public comment period to include 60 days beyond the date they receive a response to a Freedom of Information Act request concerning the Marion/Bragg site.

EPA Response: EPA agrees that the PRPs are entitled to the benefits of that procedural due process, which is due and appropriate under the circumstances, regarding notice of and an opportunity to comment on the remedy selection set forth in the Feasibility Study (FS) released August 4, 1987. However, EPA disagrees with the PRP position that the demanded extension of the public comment period beyond that provided for in the enabling legislation and the National Contingency Plan is mandated by considerations of due process.

First, the public comment period began with the release, with public notice, of the FS on August 4. Special notice letters were sent to the PRPs on August 10, 1987, notifying them of their opportunity to negotiate a voluntary performance of remedial action at the facility, and notifying them of the availability of the FS. EPA rejects as completely ungrounded the PRP assertion that public comment period began on August 22, 1987.

Most of the PRPs who have received special notice under Section 122(f) of SARA were previously given, in December 1985, an opportunity to perform the RI and FS themselves. They declined to do so. They have also been aware of the existence of the Region's ongoing RI and FS activities since that date, which are part of a continuum from identification and listing of an NPL site through of final remedy and removal from that list. The PRPs have evidently chosen not to remain involved in that process or to seek to obtain the data and other developing site information

available from the EPA. Notice consistent with the requirements of Section 113(k) of SARA was given, along with "special notice" of the moratorium period under Section 122(e)(2) of SARA. The administrative record developed to date has been available since August 4, 1987, in the locations prescribed in Section 113(k)(1) of SARA (at the Marion public library and in Region V's offices), and it contains the "background data and procedures" used in developing the RI and FS. The FOIA request submitted by one of the PRPs largely tracks and includes information already available to the PRPs in the public record established by the Region.

Comment: A summary of the technical comments is provided in points II, III, IV and V. The Agency will not repeat the response to comments which have been provided to the ERM Report in Appendix 2 to Mr. Hanson's letter.

Comment: Mr. Hanson also requests the opportunity to comment on a draft work plan for remedial action.

EPA Response: The Agency generally does not submit a work plan for RD/RA to public comment since it represents implementation of a remedy already the public has already commented on. The plan, however, will be put in the repository for review. If the steering committee elected not to undertake RD/RA, their next opportunity for project involvement will be at cost recovery. There is, of course, the moratorium period which began with the special notice (plus delivery time) on August 10, 1987. The negotiations during this period, and the PRP's opportunity to submit a good faith proposal for RD/RA work consistent with this ROD, allows the PRPs access to discussions on the work plan with EPA.

2. Mr. J. B. Smith of Beckman, Kelly and Smith on behalf of Mr. Delmar Bragg.

Comment: Mr. Smith refutes the Agency's record of hazardous waste at the site and provided additional information on the likely quantities. He also felt the risk posed by the site was de minimus and that a clay cap over only the transfer station area is needed to restrict percolation. He suggests that EPA consider this in lieu of the FS proposed remedy.

EPA Response: The Agency appreciates the augmentation of site history provided. A clay cap over a small portion of the landfill achieves very little and does not comply with the law.

3. Mr. Spitzer of Brown, Spitzer, Herriman, Browne, Stephenson and Holderead on be half of General Plastics Corporation.

Comment: Mr. Spitzer requests that General Plastics Corporation be removed from the list of PRPs since their waste is of an industrial, but not hazardous nature.

EPA Response: EPA will accept information General Plastics cares to submit on the scope of their involvement.

4. Mr. Browne of Browne, Spitzer, Herriman, Browne, Stephenson & Holderead on behalf of the City of Marion and the Marion Utility Services Board.

   Comment: Mr. Browne requests that the City of Marion be withdrawn from the EPA list of PRPs because the City does not handle hazardous waste (or hazardous sludge). Mr. Browne also suggests that this landfill does not pose a risk and the EPA remedy is inappropriate.

   EPA Response: Ultimately, the court determines liability. EPA has adequately addressed the technical concerns raised by the steering committee and continues to assert that the recommended remedy is the minimum necessary to protect human health and the environment. Therefore, it is appropriate.

5. Mr. Cromer of Mishkin, Cromer, Eaglesfield & Maher P.A. on behalf of RCA Corporation.

   Comment: The procedure followed in identifying and selection the Marion/Bragg remedy is inconsistent with CERCLA and SARA and arbitrary and capricious.

   This general statement and comment includes a number of sub-points that will be addressed individually.

   Comment: The allegedly short review and comment period is being imposed solely to meet internal Regional desires to conclude the ROD by the end of EPA's fiscal year.

   EPA Response: As demonstrated above, EPA does not believe the comment period is unreasonable short, but does not dispute that it desires to conclude the ROD process as quickly as possible. EPA maintains, however, that the procedures and timing followed here are fully consistent with the law.

   Comment: The PRPs are entitled to a full trial-type hearing before a "neutral and detached decision maker," including pre-hearing discovery, examination of witnesses and associated procedures, before being compelled to expend large sums of money at the facility.

   EPA Response: The PRPs have not been required to expend large sums of money to finance the remedy. The PRPs have received the statutory notice of two opportunities to voluntarily assume the responsibility for certain response actions: To perform the RI/FS, and to undertake the remedy. No compulsion attaches to EPA's offer to allow such voluntary action.

Beyond that threshold point, however, it is patent that neither CERCLA nor SARA apprehend any adjudication-type procedures before a "neutral and detached decision maker," presumably and equivalent of an administrative law judge or hearing officer. Section 113 requires notice and opportunity to comment, which has been provided. Section 107 provides defenses and sets the standards for recovery, in a judicial adjudication that must be brought by EPA, of costs the EPA must expend if the PRPs decline to assume the remedial tasks. Particular notice and opportunity to comment have been given to the PRPs and the community in the manner provided by the site, and the PRPs have been on notice of ongoing RI/FS process since December 1985. The data generated by EPA during the RI/FS process are made available routinely on request from PRPs and the public and are included in the public record.

The final decision on a ROD is committed by delegated authority to the Regional Administrator, who is not involved in the details of the remedial development process. EPA believes that the statutory process is fully protective of the PRPs' due process rights, and the process as administered here was neither arbitrary nor capricious given the manifold opportunities the PRPs have had continuously available to gain information about the remedy selection process and prepare comments for submission during the public comment period.

Comment: EPA has disregarded a requirement of Section 122(e) of CERCLA, as amended, by closing the public comment period during the moratorium on response action established in Section 122(e).

EPA Response: Closure of the public comment period on the FS is not "commencement of response action" under Section 104(a). Rather, it is only one step in the process, already under way, leading to actual commencement of on-site cleanup activity. The moratorium period is clearly inteneded to halt, where environmental and human health threats are not pressing, the actual conduct of response actions at the facility. The moratorium period, moreover, is an additional opportunity for the PRPs to negotiate with EPA concerning response work to be performed, if the PRPs produce a good-faith proposal after 60 days and oblige themselves by the end of 120 days through a consent agreement to perform the remedial work. EPA does not agree that the Section 122 moratorium requires holding the public comment period and the administrative record open. Indeed, this PRP comment, were it to be acceded to by EPA, poses a conundrum: A remedy, following the PRPs' view of the moratorium, could not be selected through a ROD and made the subject of negotiations until the moratorium period was over, but negotiations over the remedy cannot begin until the EPA has established the remedy.

Comment: In a cost recovery action, the EPA will not be able to support its recommended remedy, and the ultimate decision maker on issues such as cost recovery will be a Federal District Court.

EPA Response: EPA agrees that cost recovery actions will be decided, if they are not settled, by a federal court. This comment illustrates a degree of confusion between the process of selecting a remedy through notice-and-comment procedures, and litigation of cost recovery claims should the PRPs decline to undertake the remedy. In any cost recovery action, the PRP defendants will have the opportunity to demonstrate to the court that the remedy is inconsistent with the National Contingency Plan and the enabling legislation, and to seek to raise challenges to that legislation as well. The PRPs' rights to due process of remedy selection and to negotiate their own agreement on performing a remedy; and they have access to judicial review, in action brought to recover EPA costs, of the EPA's remedy.

IV. Remaining Concerns

None identified.

Appendix 6 -- Administrative Record Index

Administrative Record Index -- Marion/Bragg Landfill

Administrative Record for Marion/Bragg Landfill, Grant County, Indiana as of September 30, 1987.

File # 1. PA/SI, HRS

- Raw data for scoring package

2. Site Inventory

- memos from observation during site visits
- file search information obtained during RAMP period including: land ownership, water well records, city township location documentation

3. RAMP (Remedial Action Master Plan) 9/9/83

4. RI/FS initiation

- letter from IDEM requesting project initiation and making Assurances
- RI/FS Statement of Work

5. Work Plan memorandum 6/19/85

6. Community Relation Plan 2/10/86

7. Initial Site Evaluation 8/20/85

8. Groundwater Utilization Survey 7/18/85

9. Draft Geophysical Investigation Fall '85

10. Work Plan - PRP negotiating draft 10/11/85

11. Final Work Plan 4/24/86

12. Final Quality Assurances Project Plan 7/10/86

13. Final Health and Safety Plan 4/24/86

14. Phase II Sampling and Analysis Memorandum 6/2/86

15. Request for applicable, relevant and appropriate requirements for Remedial Alternatives 3/6/87

    USEPA Comments:

    - Water Division 4/28/87
    - Air Division 6/17/87
    - Great Lakes National Program Office 4/27/87
    - Solid Waste Branch 4/15/87

    IDEM Comments: 5/4/87 and 7/27/87

16. Quality Assurance Project Plan - Addendum One for supplemental sampling (May, 1987)

17. General Correspondence File - Contains various comments and correspondence with other Agencies such as; ATSDR, ISBH, IDEM and U.S. Fish and Wildlife Service.

    - ISBH letter identifing water quality standards 7/3/85
    - Fact sheet, Public "Kick-off" meeting 1/30/86
    - ISBH comments to Draft QAPP and Health and Safety Plan 9/25/85
    - ISBH comments to Draft Work Plan 10/9/85
    - ATSDR comments to Draft Work Plan and Draft QAPP 10/23/85
    - Memo from Potentially Responsible Party meeting of 11/7/85
    - ATSDR memo for review of residential drinking water samples 11/9/85
    - ISBH additional comments on Work Plan and QAPP 2/6/86
    - U.S Fish and Wildlife comments on surface water and sediment data 6/10/87

18. Applicable Guidance

19. Comments to Agency Proposed Plan

Uncopied references which are available at the Regional Office in Chicago, Illinois:

1. Guidelines for the Pollutional Classification of Great Lakes Harbor Sediments - April, 1977

2. Raw Data from all RI field investigations

The reader should note that in 1986 the Indiana State Board of Health (ISBH) was reorganized and the Indiana Department of Environmental Management (IDEM) was created.

Appendix 7 - State of Indiana Concurrence

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
NANCY A. MALOLEY, Commissioner

105 South Meridian Street
P.O. Box 6015
Indianapolis 46206-6015
Telephone 317-232-8603

September 29, 1987

Mr. Valdas V. Adamkus
Regional Administrator, Region V
U.S. Environmental Protection Agency
230 S. Dearborn Street
Chicago, IL 60604

Re: Letter of Concurrence
Marion/Bragg Landfill
Grant County, Indiana

Dear Mr. Adamkus:

The draft Record of Decision (ROD) for the Marion/Bragg Landfill has been reviewed by the staff of the Indiana Department of Environmental Management (IDEM). The IDEM is in concurrence with the selected interim remedy presented in the draft ROD.

The selected interim remedy has the following components: a) a sanitary landfill cap which meets IDEM's proposed landfill closure requirements, b) construction of a flood control dike, c) access restrictions, d) replacement of 3 private use wells on-site by constructing new wells into the deeper aquifer, and e) monitoring of ground water, surface water and aquatic life on an around the site. In our view, this selected remedy best addresses the public health, welfare and the environment surrounding the Marion/Bragg Landfill and it meets the State's Applicable or Relevant and Appropriate Requirements (ARARs).

The State of Indiana recognizes its obligation to provide the assurances listed in Section 104(c)(3) of the CERCLA as amended by SARA. The State will provide the required ten percent State match of approximately $600,000 for the remedial action, and operation and maintenance costs of $1,080,000, present worth, for thirty years. Please be assured that the State of Indiana is committed to accomplish cleanup of all Indiana sites on the NPL and intends to fulfill all obligations required by law to achieve that goal. In addition to these assurances, Indiana will provide assistance to the U.S. EPA regarding site access to the degree that the State has legal authority.

Sincerely,

Nancy A. Maloley

Nancy A. Maloley
Commissioner

APPENDIX B

REMEDIAL ACTION PLAN

REMEDIAL ACTION PLAN

Marion (Bragg) Landfill
Marion, Indiana

25 January 1989

Prepared for:

Marion (Bragg) Group

Prepared by:

Environmental Resources Management, Inc.
855 Springdale Drive
Exton, Pennsylvania 19341

FILE: 448-09

TABLE OF CONTENTS

		Page
Section 1	Background	1-1
1.1	Hydrogeology	1-1
1.2	Present Site Conditions	1-2
1.3	Selected Remedy	1-2
Section 2	Objectives	2-1
Section 3	Remedial Actions	3-1
3.1	Access and Deed Restriction	3-1
3.2	Residential Well Replacement	3-1
3.3	Flood Protection	3-2
3.4	Landfill Cover/Cap	3-2
3.5	Operations & Maintenance Plan	3-3
Section 4	Monitoring and Additional Studies	4-1
4.1	Ground Water Monitoring	4-1
	4.1.1 Existing Ground Water Monitoring Network	4-1
	4.1.2 Monitoring Well Replacement	4-1
	4.1.3 Proposed Ground Water Monitoring Network	4-2
	4.1.4 Monitoring Well Construction	4-2
	4.1.5 Ground Water Sampling	4-6
4.2	Surface Water Sampling and Analysis	4-7
4.3	River Sediment Sampling	4-10
4.4	Parameters for Analysis	4-10
4.5	Bioaccumulation Studies	4-10
	4.5.1 Does a Compound Have Significant Bioaccumulation Potential?	4-11
Section 5	Decision Tree for Future Studies	5-1
Section 6	Conclusions	6-1

The

LIST OF TABLES

		Page
Table 4-1	IDEM Indicator Parameter List	4-7

LIST OF FIGURES

		Page
Figure 1-1	Site Locations	1-2
Figure 1-2	Site Map	1-3
Figure 4-1	Proposed Monitoring Well Network	4-3
Figure 4-2	Typical Monitoring Well - Cross Section	4-5
Figure 4-3	Proposed Ground Water Sampling Schedule	4-8
Figure 4-4	Proposed Surface Water Sampling Locations	4-9
Figure 4-5	Bioaccumulation Studies Decision Tree	4-12
Figure 5-1	Water Quality Studies Decision Tree	5-2

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SECTION 1

BACKGROUND

The Marion (Bragg) Landfill site consists of a 72-acre parcel of land located on the southeast edge of Marion, Grant County, Indiana (Figures 1-1 and 1-2). Approximately 45 of the site's 72 acres were used for landfilling purposes prior to closing in 1975. The Mississinewa River borders the site to the east and north, a cemetery borders it to the west, and an abandoned gravel pond, which is presently used for commercial recreation purposes under the name of East Side Cove, borders it to the south. A large pond of approximately 15 acres lies near the center of the site. A residence and two businesses are located along the southwest corner of the site. The two businesses are Marion Paving Company and Dobson Construction Company; both are asphalt plants.

The landfill is heavily vegetated and does not presently appear to have any erosion problems. Vegetation covering the landfill consists of tall grasses and trees up to 6 inches in diameter.

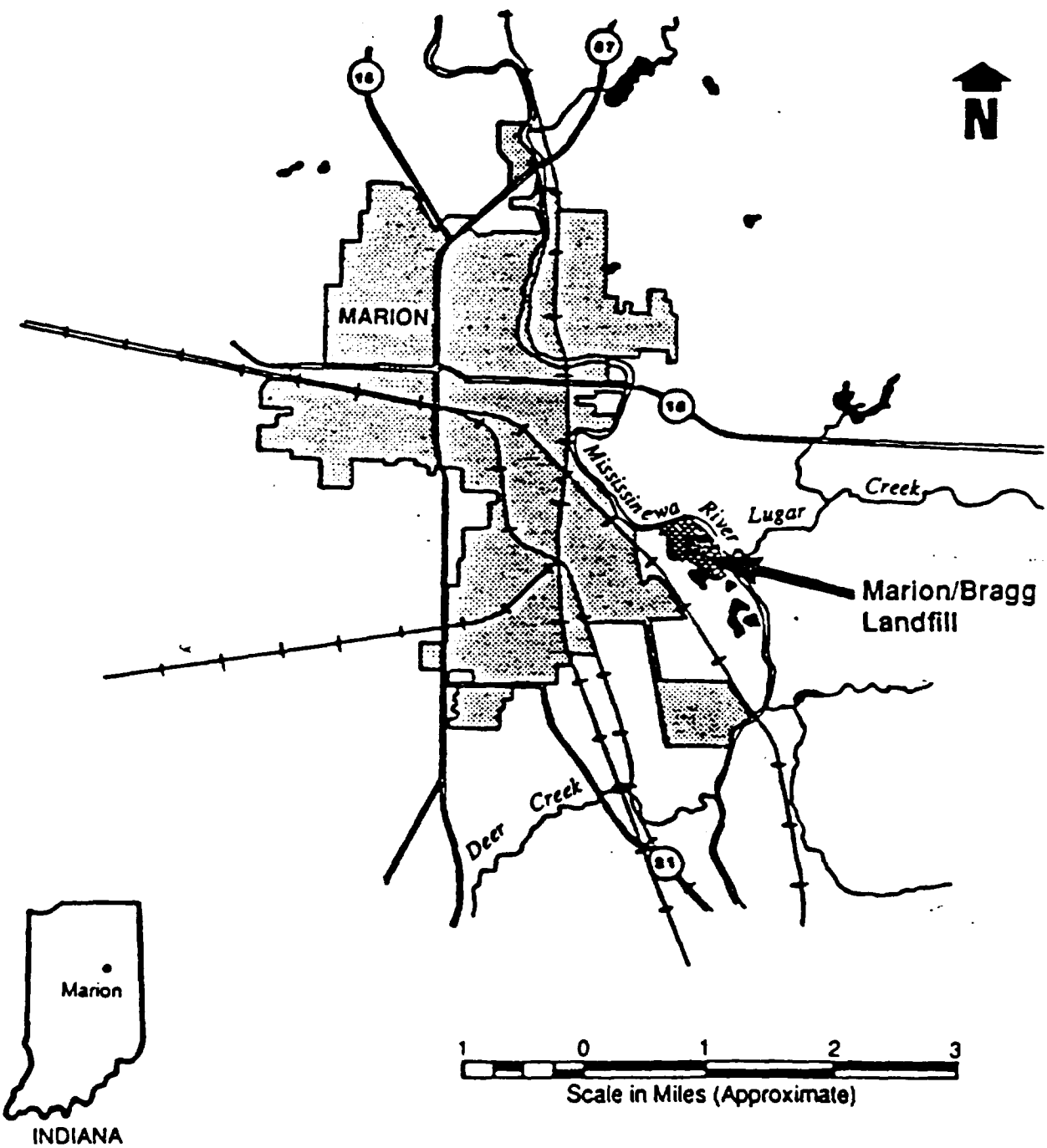
1.1 Hydrogeology

As presented in the United States Environmental Protection Agency (EPA) and Indiana Department of Environmental Management (IDEM) Remedial Investigation Report (RI), three stratigraphic units underlie the Marion (Bragg) Landfill:

- Sand and gravel outwash ranging in thickness from 6 to 64 feet
- Glacial till ranging in thickness from 54 to 63 feet
- Limestone bedrock at a depth ranging from 89 to 125 feet below the ground surface.

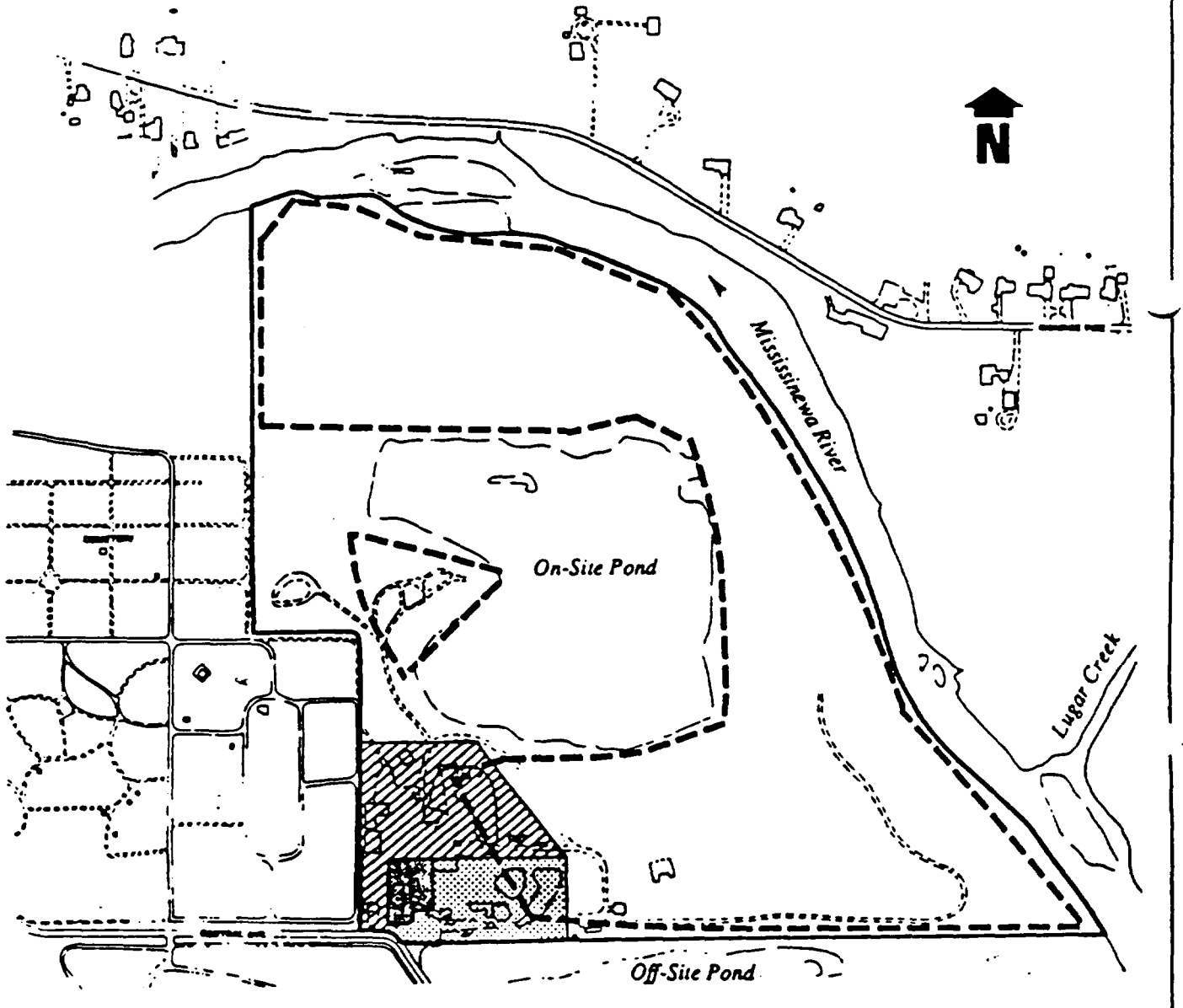
The sand and gravel and limestone are identified as the upper and lower aquifers, respectively. The glacial till separates the two aquifers, while serving as a confining layer for the lower aquifer. Both aquifers provide a potable water source in the vicinity of the Marion (Bragg) Landfill site. The upper aquifer is unconfined and ranges from 18 to 42 feet in thickness. The hydraulic gradient in the upper aquifer is towards the Mississinewa River, which the EPA and IDEM determined is acting as a hydraulic barrier causing ground water from beneath the site to discharge to the river, thus preventing ground water flow beyond the river. Based on estimated flow velocities, the EPA reports that this upper aquifer purges itself every 2.2 years, or the site has completely purged approximately 7 times in the last 15 years.

Figure 1-1
Site Location
Marion (Bragg) Landfill



44639

Figure 1-2
Site Map
Marion (Bragg) Landfill



LEGEND

- Site Boundary
- Marion Paving Co., Inc.
- Dobson Construction Co., Inc.
- Private Residence
- Landfill Area

0 250 500

Scale in Feet

Source: U.S. EPA 1987.

Glacial till separates the upper aquifer from the limestone which acts as the lower confined aquifer. The potentiometric surface of the confined aquifer is artesian and has been measured approximately 15 feet higher than the ground water table surface of the upper aquifer. The EPA and IDEM studies showed that the lower aquifer flows to the northeast.

1.2 Present Site Conditions

The following section is taken from the Record of Decision (ROD) issued by the EPA and IDEM 30 September 1987.

> "The final cover applied to the landfill is a very permeable silty sand material which varies is thickness from 3 to 24 inches. There are numerous areas where debris, including drum carcuses, protrude from the fill. The surface is vegetated in most areas and four to five inch diameter trees are also predominant surface features.
>
> The on-site pond was at one time stocked for recreational fishing, but it is no longer used as such. Teenage children have been seen fishing occasionally from the on-site pond, otherwise the site is not typically used. At the southwest edge of the landfill is an intake pipe and effluent ditch from the Marion Paving Company. Marion Paving has an expired permit issued for "private use water." The permit allows water withdraw/and discharge to the on-site pond for the gravel washing operation.
>
> Another asphalt company, Dobson Paving Company and a private residential home are also located within the property boundary. All three have shallow wells which are in the upgradient, uncontaminated portion of the aquifer."

1.3 Selected Remedy

The EPA and IDEM presented a remedy in the ROD which consists of the following major components:

- Regrade and cap the site;
- Provide and maintain flood control measures;
- Construct and maintain a fence around the site;
- Replace the three existing private-use drinking wells which currently exist at the site; and
- Monitor ground water and conduct additional studies to complete the remaining ground water and on-site pond operable units.

This Remedial Action Plan (RAP) has been prepared based on the list above.

SECTION 2

OBJECTIVES

This RAP is broken down into three principal sections, each outlining components of the remedial actions proposed to achieve the recommended remedial alternative developed by the EPA and IDEM for the site. The three sections of the RAP are entitled as follows:

- Section (3) - Remedial Actions
- Section (4) - Monitoring and Additional Studies
- Section (5) - Decision Tree For Future Studies

A primary element of this remedy is monitoring the effectiveness of the proposed cap. The ground water data gathered before and after installation of the cap will be evaluated to show the effectiveness of this remedy. Design and construction of the cap and implementation of the remainder of the selected remedy should require between 1.5 and 2 years. It will then take approximately two years for the site ground water to turn over once. Ground water samples taken before and after implementation of the remedy should demonstrate the effects of reduced infiltration on the shallow ground water table and water quality.

The selected interim remedy may become the "final" remedy, if it is determined that no environmental or human health impact results from the continued release of ground water to surface receptors.

SECTION 3

REMEDIAL ACTIONS

This section outlines the various remedial actions to be taken as part of the remedy for the Marion (Bragg) Landfill. The following are the major components of the remedy:

- access and deed restrictions
- replacement of on-site residential wells
- flood protection
- landfill cap

Each of the components of the remedy are discussed briefly in the following subsections. Section 4 provides a summary of those remedial actions, monitoring, and additional studies that will be conducted to determine the effectiveness of the landfill cap.

3.1 Access and Deed Restriction

Access and deed restrictions are considered appropriate and a basic element of any remedy, since they eliminate existing and potential access to the site. The EPA and IDEM lack the legal authority to establish access and land use and deed restrictions and to bar uses of the property for such activities as well drilling and excavation. Because of these agencies' lack of authority, the Group will attempt to negotiate a restrictive covenant with the property owner. In addition to negotiation of land use and deed restrictions with the property owner, site access will be restricted by a 6-foot high chain-link fence to be constructed around the perimeter of the property and by the posting of signs. These restrictions will help preserve the integrity of the cap and monitoring well network, and prevent recreational use of the on-site pond.

3.2 Residential Well Replacement

The Group, with cooperation from the EPA and IDEM, will seek to secure a voluntary deed restriction to prohibit the use of ground water or the installation of shallow wells at the site. As a protectiveness measure and anticipating an enforceable deed restriction, the three existing private-use shallow wells within the site boundary will be abandoned according to proper EPA and IDEM well abandonment procedures. These three existing private-use wells will be replaced with a suitable source of potable water.

The

3.3 Flood Protection

Portions of the site are estimated to lie with the 100-year flood plain of the Mississinewa River. To protect the proposed landfill cap from erosion by flood waters, a perimeter flood protection structure will be constructed. This structure will be constructed on the landfill cap and will be designed to supplement the existing vegetative cover presently providing flood and erosion protection to the perimeter of the site. Construction of a flood protection structure will minimize the loss of floodplain and protect the proposed cap. The flood protection structure will tentatively be constructed along the west, north, and east sides of the landfill. The portion of the site requiring flood protection may be adjusted, once a more detailed flood map is developed. The State of Indiana is currently remapping the floodway in the vicinity of the site.

Once the actual flood protection system is designed, it will be submitted for review and approval by the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Indiana Department of Natural Resources, EPA and IDEM. The final design will consider all appropriate and applicable requirements such as Indiana regulation I.C. 13-2-22, the Indiana Flood Control Act, which regulates construction in a floodplain.

3.4 Landfill Cover/Cap

To promote runoff, reduce infiltration, and eliminate any potential off-site migration of contaminated soils or leachate seeps, the existing cover will be modified or supplemented as needed to provide for an approved sanitary landfill cap. This cap will be designed based on a performance standard to meet the existing requirements of the State of Indiana regulations for a sanitary landfill cap. The RI/FS conducted by the EPA and IDEM determined that such a cap would reduce infiltration through the landfill by approximately 70% and minimize the leaching of contaminants into the ground water.

In conjunction with the regrading and construction of the landfill cap, uncovered or protruding waste and contaminated leachate seeps and sediments which were identified in the RI/FS will be removed and/or covered by the cap in the course of regrading. Liquid hazardous materials contained in drums which are encountered will be removed and disposed of at an approved site. Finally a sanitary landfill cap meeting IDEM specifications will be constructed with a minimum of 2 feet. of material having a permeability of 10^{-6} cm/sec (or a comparable design) and a 6-inch layer of topsoil. The cap would then be seeded to control erosion. Construction of the cap would be conducted according to the IDEM specifications.

3.5 Operations and Maintenance Plan

An Operations and Maintenance (O&M) Plan shall be prepared to described the activities that will be carried out at the site after the remedial action construction has been finished. The O&M Plan will help to ensure that the actions taken continue to meet the performance standards. These activities will at least include the inspection and maintenance of the fence and the signs, the landfill cover, and the flood protection measures.

SECTION 4

MONITORING AND ADDITIONAL STUDIES

The objective of this effort is to perform the necessary tasks to effectively monitor ground water, to determine existing surface water quality in the vicinity of the landfill, and provide documentation of the success of the proposed remedy.

4. Ground Water Monitoring

The EPA and IDEM have evaluated the hydrogeology of the Marion (Bragg) Landfill. Any contaminants in the upper aquifer which leave the site are expected to discharge northward into the Mississinewa River. Based on this information and sampling of the wells, there is no potential for contamination of shallow private-use wells located upgradient from the landfill on the site. However, the three private-use wells will be replaced to eliminate shallow potable wells from within the site boundary (Section 3).

confirm the RI conclusion that the impacts of contaminants from the upper aquifer on the Mississinewa River are minimal, additional ground water monitoring will be conducted as part of the remedy. Details of the proposed monitoring program are de ibed below.

4.1.1 Existing Ground Water Monitoring Network

The EPA and IDEM determined the characteristics of the upper aquifer through the installation of a number of monitoring wells. In order to provide a more site-specific monitoring well network for monitoring to be conducted as part of the remedial action, it is proposed that the existing shallow monitoring wells be sealed and abandoned and replaced with 10 new monitoring wells. In addition to the conditions described above, many of the existing wells will need to be removed because they are located in areas where the landfill cap is to be installed.

4.1.2 Monitoring Well Replacement

Plugging and abandonment of on-site monitoring wells will be conducted to conform to applicable requirements of state and local authorities. The existing on-site shallow monitoring wells will be pulled or drilled out to the elevation of the end of the .ginal boring as indicated on the associated boring log. The borehole will be held open with drilling mud or temporary casing, as required, to prevent sloughing of cuttings into the borehole.

The

Finally each borehole will be sealed in a single stage by filling with grout, starting with the bottom and progressing upward in the borehole. An accurate record of well plugging and abandonment will be kept and will include the following:

- well number
- grout mix
- calculated borehole volume
- measured volume of grout pumped into the borehole
- pressure during pumping
- time to complete grouting

4.1.3 Proposed Ground Water Monitoring Network

The proposed locations of 10 new monitoring wells were selected with consideration of the following factors:

- Well installations should not be installed through buried wastes;

- The site has a relatively homogenous upper aquifer, and site geology is relatively simple; and

- The upper aquifer discharges to the Mississinewa River

Eight of the ten proposed shallow monitoring wells will be installed on the landfill property downgradient from areas of waste deposition (source area) and upgradient from the Mississinewa River. The wells installed near the river and outside the landfill wastes will provide a more accurate indication of the quality of ground water discharging to the river and to monitor the potential influence of surface water quality on the quality of ground water beneath the site (common in river flood plains during periods of high water and gradient reversal).

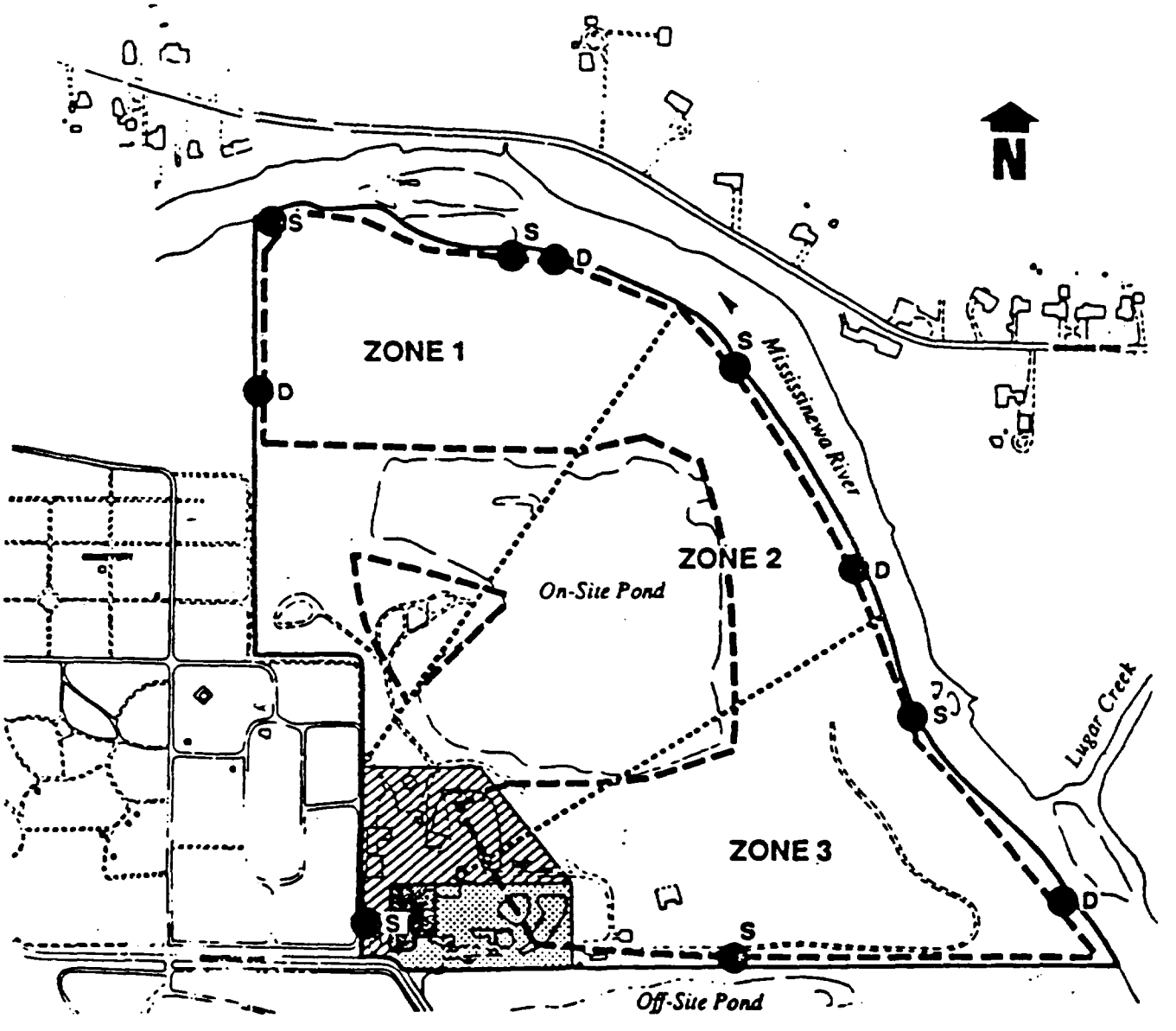
Two additional wells will be installed upgradient from the facility to provide data regarding the quality of ground water entering the site.

The proposed arrangement of the monitoring well network is indicated in Figure 4-1.

4.1.4 Monitoring Well Construction

Hollow-stem augers will be used to advance the borings to termination depths consistent with the bottom of the upper aquifer. Continuous split-spoon samples of 24-inch intervals will be taken from the well boreholes starting from the ground surface and continuing to the bottom of the upper aquifer. Split-spoon samples will be visually classified based on the

Figure 4-1
Proposed Monitoring Well Network
Marion (Bragg) Landfill



LEGEND

- Site Boundary
- Marion Paving Co., Inc.
- Dobson Construction Co., Inc.
- Private Residence
- Landfill Area
- Proposed Upper Aquifer Monitoring Wells
  - S - Shallow Zone of Upper Aquifer
  - D - Deeper Zone of Upper Aquifer

0 250 500

Scale in Feet

Source: U.S. EPA 1987.

448u3

unified soil classification system and placed in jars for future reference.

The shallow wells will be installed to screen across a maximum of 10 feet of the upper aquifer. This design conforms with routine monitoring well specifications and allows for fluctuations of the water table. The new wells will be constructed of 2-inch I.D. PVC, 20 slot well screen, and PVC riser pipe. The annular space around the screen will be gravel packed a minimum of 2 feet above the screen, a 1-foot thick sand filter will be placed above the gravel pack, and a 2-foot thick bentonite pellet seal will be installed above the sand pack. Cement/bentonite grout will be tremied to within three feet of the ground surface. The cement/bentonite grout will consist of portland cement and bentonite only. No synthetic material will be substituted for the bentonite. The thickness of material placed within the annular space will be measured to within 0.5 feet. To prevent surface water infiltration and to provide security, a steel protective casing with a sanitary seal will be concreted in place over each of the shallow wells. The concrete seal around the protective casing will extend approximately 3 feet below the ground surface and will be sloped away from the well casing. Figure 4-2 is a schematic diagram showing construction specifications for the proposed shallow wells.

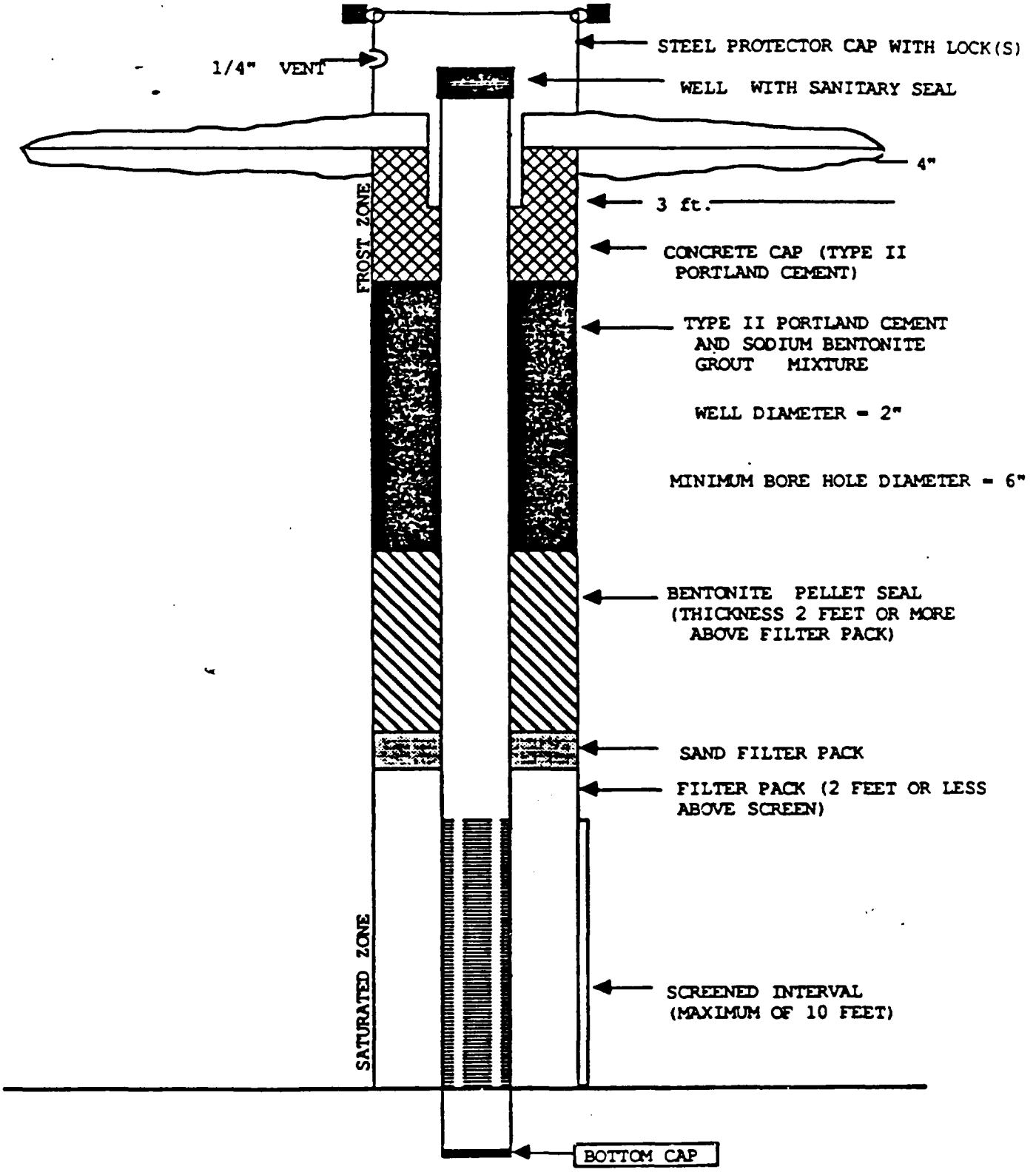
Wells will be installed under the observation of a Contractor hydrogeologist. Should field conditions require changes in the well design, the Group, EPA and IDEM will be consulted regarding the field change request.

To minimize the potential for cross-contamination between borings, all drilling equipment will be steam cleaned between borings. Additionally, split-spoon samplers will be decontaminated between uses. Prior to installation, well casings and screens will be steam cleaned to remove any manufacturing-related contaminants. Drill cuttings and fluids will be collected and placed on the landfill prior to capping.

Upon completion, each of the wells will be developed by compressed air or pumping until pH and specific conductivity stabilize. Evacuated well water will be collected and disposed of in an approved manner upon Contractor and EPA joint review of the results from well sampling. The top of the well casing elevation and well location for each newly installed well will be surveyed by a licensed surveyor.

The top of casing elevations will be keyed to a permanently marked reference point (i.e., a notch in casing top) which will be used for all measurements of depth to water. Water level measurements will be taken from each of the newly installed wells immediately after well completion and after development. Depth to water measurements will be taken on a monthly basis from the

FIGURE 4-2 GENERAL MONITORING WELL - CROSS SECTION



monitoring well network for a minimum of three months and quarterly thereafter for the remainder of the year. This schedule should allow for detection of variations in water table elevations over this time period.

4.1.5 - Ground Water Sampling

One round of water samples will be obtained initially from each of the shallow wells for analysis of priority pollutant compounds, ammonia, and the IDEM list of indicator parameters (Table 4-1). Upon receipt of the first round of ground water analytical results, an evaluation of the data will be performed to establish a list of indicator parameters for semi-annual sampling as part of the selected remedy (Figure 4-3). As part of evaluating the data, analytical results from the downgradient monitoring wells will be compared to appropriate standards and upgradient water quality. If standards are exceeded, then the actions discussed in Section 5 will be followed. These subsequent actions will include the averaging of results of water quality analysis for monitoring wells from each zone.

Samples will be obtained using EPA and IDEM recommended sampling and quality assurance/quality control (QA/QC) protocols.

Should the ground water quality remain relatively consistent over time, monitoring may not need to be as extensive and may be reduced after review by the EPA and IDEM.

4.2 Surface Water Sampling and Analysis

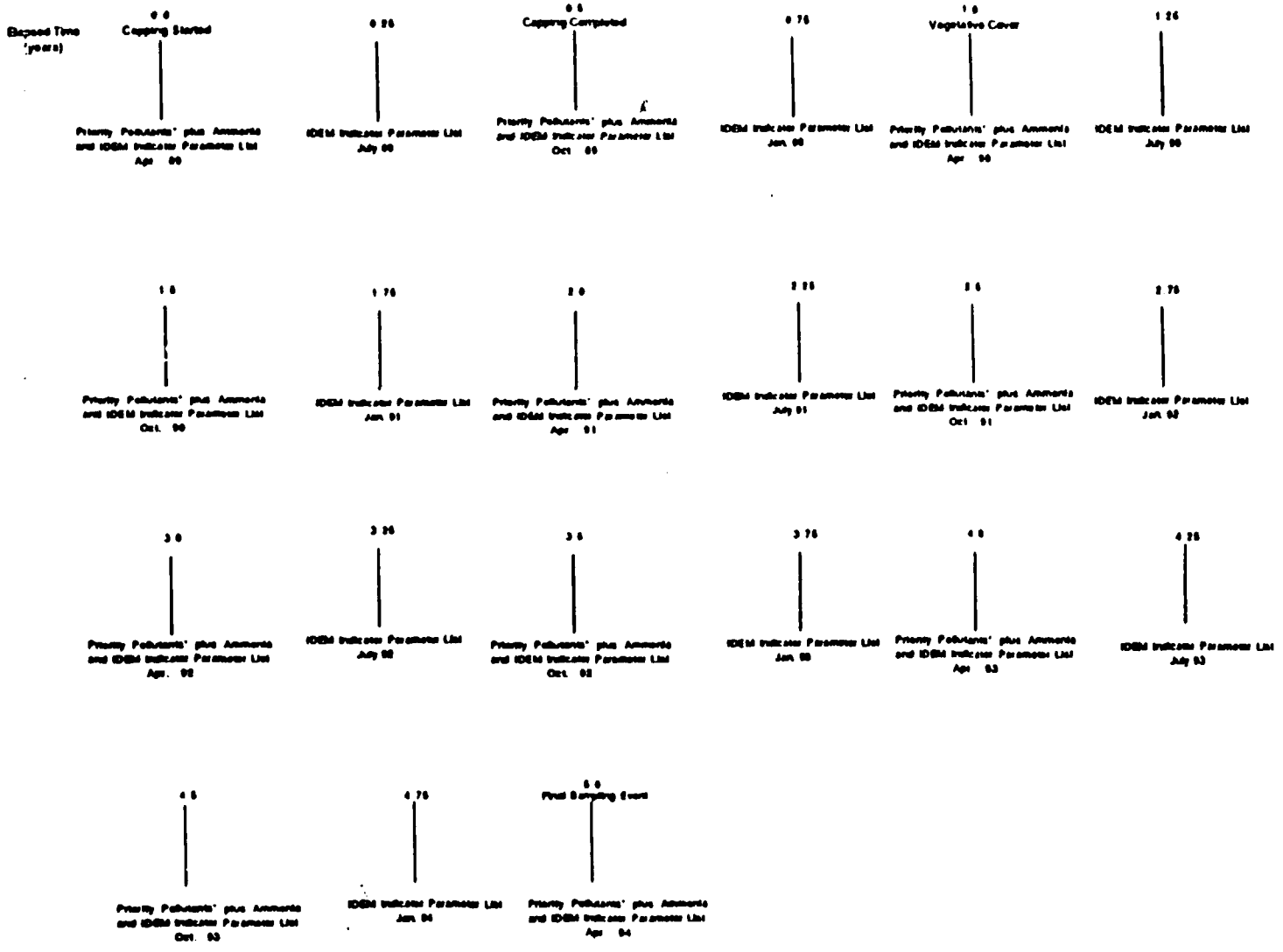
The objective of the surface water sampling and analysis program will be to determine whether surface waters are being impacted by the landfill at levels above appropriate standards. In conjunction with the initial ground water sampling event, samples of surface water will be obtained from the on-site pond, off-site pond, Mississinewa River, and Lugar Creek for analysis of priority pollutant compounds (Figure 4-4). Sampling points on the Mississinewa River will be located upstream, at three locations adjacent to the landfill site, and downstream at one location. In addition, one sampling point will be located along Lugar Creek, two at the on-site pond, and two at the off-site pond. Surface water sampling will be conducted semi-annually and confirmatory samples shall be taken during the quarter following the sampling event that revealed the presence of a parameter requiring such confirmatory sampling. The criteria to be used for evaluation of ground water and surface water are discussed in Section 5 - Decision Tree for Future Studies.

TABLE 4-1
IDEM INDICATOR PARAMETER LIST
MARION (BRAGG) LANDFILL
MARION, INDIANA

Temperature
pH
Total Suspended Solids
Specific Conductivity
COD
NH_3-N
Chlorides
Dissolved Oxygen

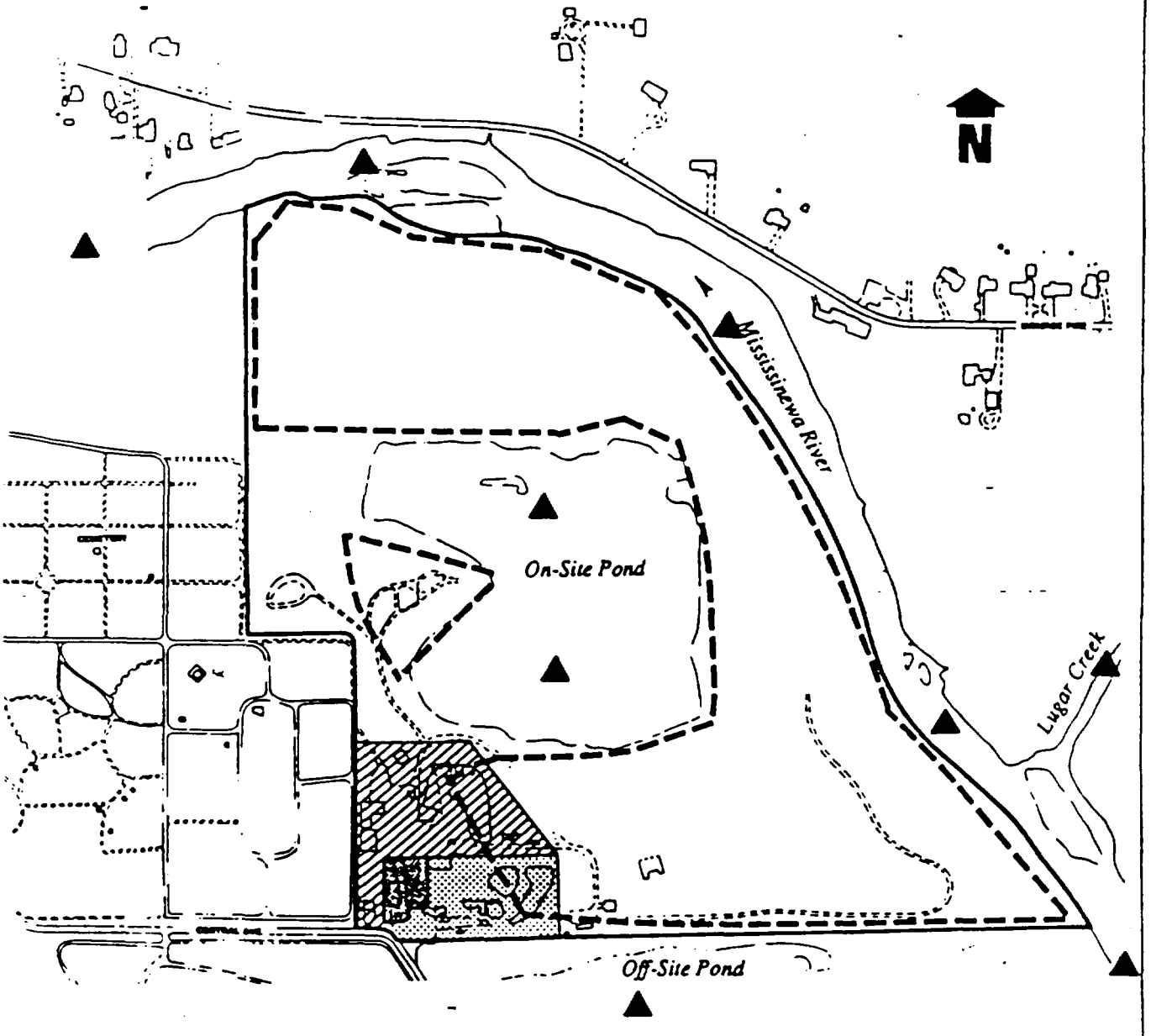
FIGURE 4-3

PROPOSED GROUNDWATER
SAMPLING SCHEDULE



* Pesticides and PCBs not included

Figure 4-4
Proposed Surface Water Sampling Locations
Marion (Bragg) Landfill



LEGEND

- Site Boundary
- Marion Paving Co., Inc.
- Dobson Construction Co., Inc.
- Private Residence
- Landfill Area
- Proposed Surface Water Sampling Locations

0 250 500

Scale in Feet

Source: U.S. EPA 1987.

44809

4.3 River Sediment Sampling

Fine grain sediment samples will be collected in the general vicinity of the surface water sampling stations. The river sediment sampling stations will be located between mid-river and the left shore (facing downstream) to reflect any "sideness". The silt and clay fractions of sediments have the greatest tendency to adsorb chemicals based on surface area and organic carbon content. In addition to the chemical analysis of the sediments, grain size distribution and total organic carbon analysis will be conducted to indicate surface area and organic carbon content.

Chemical data analysis will provide an indication of the distribution of contaminants into the site-related sediments as compared to other stations. The chemical characteristics of the sediment will be used in the endangerment assessment as well as in the selection of target compounds to be analyzed in the fish bioaccumulation studies.

4.4 Parameters for Analysis

The parameters to be analyzed in the samples of ground water and surface water collected during the first sampling event include priority pollutant compounds, ammonia, and the IDEM list of parameters. The basic parameter list consists of the U.S. EPA priority pollutant compounds less pesticides and PCBs. Sampling, preservation, and analytical methods will conform to U.S. EPA recommended procedures and protocols. Metals analysis will be conducted on both unfiltered and filtered samples for surface water samples.

Subsequent semi-annual sampling of ground water will consist of priority pollutant compounds less pesticides and PCBs plus the IDEM list of indicator parameters. In the quarters between these semi-annual events, the monitoring well network will be sampled for the IDEM list of parameters. The semi-annual parameter list may be reduced to a list of site-specific indicator parameters once a sufficient data base is developed.

4.5 Bioaccumulation Studies

Bioaccumulation, in the broadest sense, refers to the uptake of essential and nonessential substances by an organism from the surrounding medium. The accumulation of xenobiotics (substances not required for normal metabolism) is of concern, since the tissue concentrations can reach elevated levels high enough to cause damage to the organism or to subsequent consumers, including humans. Experience has shown that chemical substances likely to bioaccumulate are those which are lipid soluble and for

which chemical, physical, and biological degradation processes are so slow that significant persistent environmental concentrations could ensue. Inorganics also can bioaccumulate. A decision methodology for bioconcentration work is presented in Figure 4-5. This decision allows an objective screening of contaminants for which the studies can be carried out. Each step is described below.

4.5.1 Does a Compound Have Significant Bioaccumulation Potential?

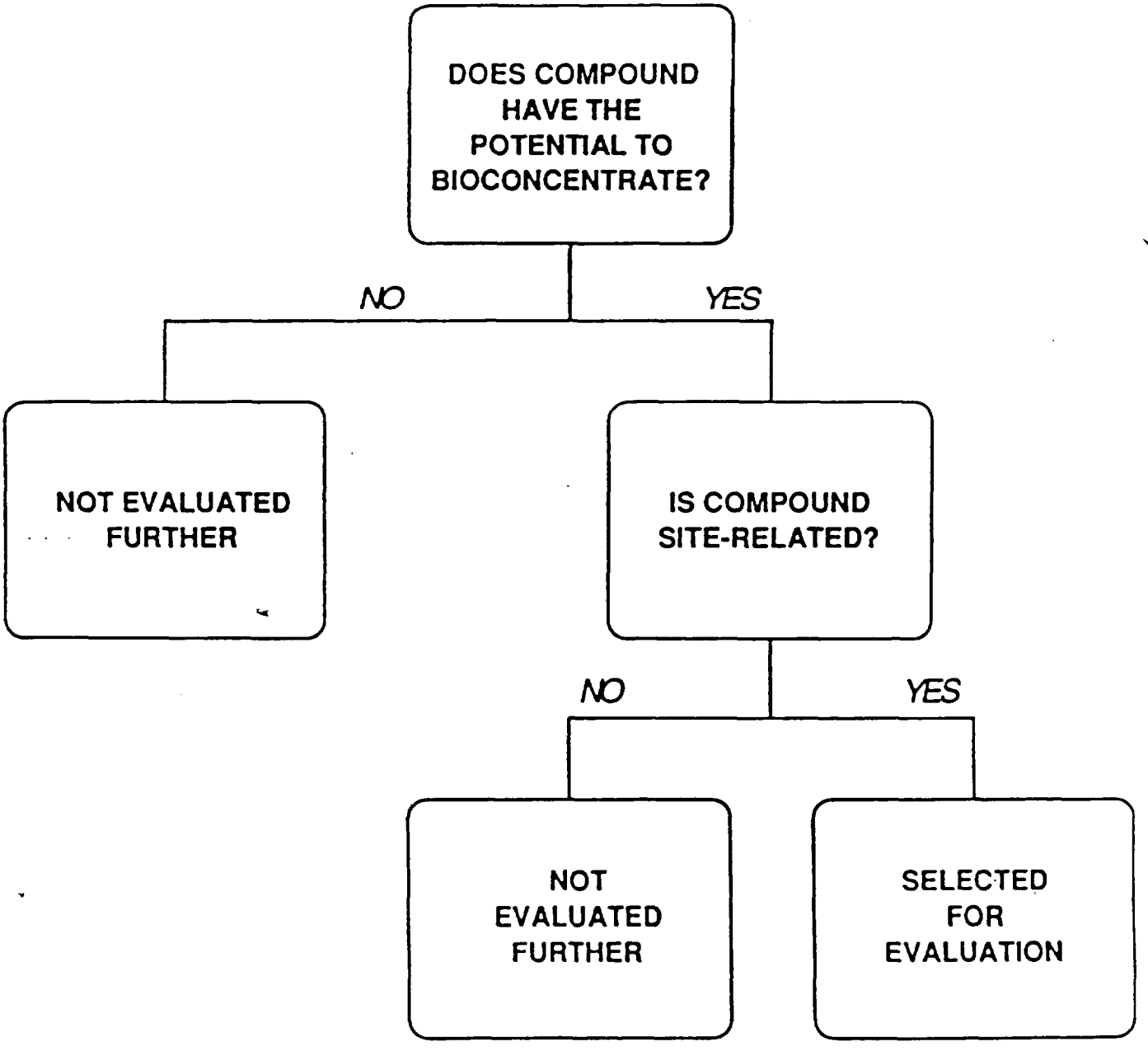
In general, a compound having a water solubility of more than 0.5 mg/l and a BCF of less than 100 is not considered to have a significant bioaccumulation potential. The decision criteria of solubility less than 0.5 mg/l and a BCF of over 100 will be used to screen the site ground water analytic results. Any compound not passing the decision criteria will be considered for bioaccumulation studies in the Mississinewa River fish populations.

In addition to ground water analytic results, the river sediment analytic results will be screened for an indication of significantly elevated concentrations of compounds compared to upstream (control) levels. Any hot spot results will be assessed as a candidate for bioaccumulation via fish consumption of benthic organisms or direct fish uptake from the water via a slow release of the compounds from the sediments to the water column.

The basic parameter list for analysis will consist of U.S. EPA priority pollutant compounds less pesticides and PCBs. The list may include other parameters if indicted by ground water and site sediment analysis.

Sample handling, measuring and processing will follow procedures in U.S. EPA. Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissue (EPA 000/4-81-055).

FIGURE 4-5
BIOACCUMULATION STUDIES DECISION TREE



SECTION 5

DECISION TREE FOR FUTURE STUDIES

The objective of the additional studies is to perform the necessary tasks to ensure that no unacceptable threat to human health or the environment results from conditions in the on-site pond or the discharge of site-related ground water to the Mississinewa River. These additional studies are intended to complete the investigation of the on-site pond and ground water operable units, as specified in the EPA and IDEM Record of Decision. Two types of studies are deemed appropriate for meeting these objectives: biological survey studies (on the Mississinewa River) and water quality studies (ground water, on-site pond, off-site pond, and Mississinewa River). The basis for the future studies beyond the monitoring and studies outlined in Section 4 are discussed below.

Water quality studies refer to a broad spectrum of investigations which attempt to estimate the human health and environmental effects of current or projected conditions of various surface water bodies, or ensure that minimum conditions for the protection of human health and the environment are met. A broad spectrum of investigative techniques exists for such determinations; the techniques of interest at the Marion (Bragg) Landfill are those which can assess the potential impact of ground water discharge from the site to the Mississinewa River.

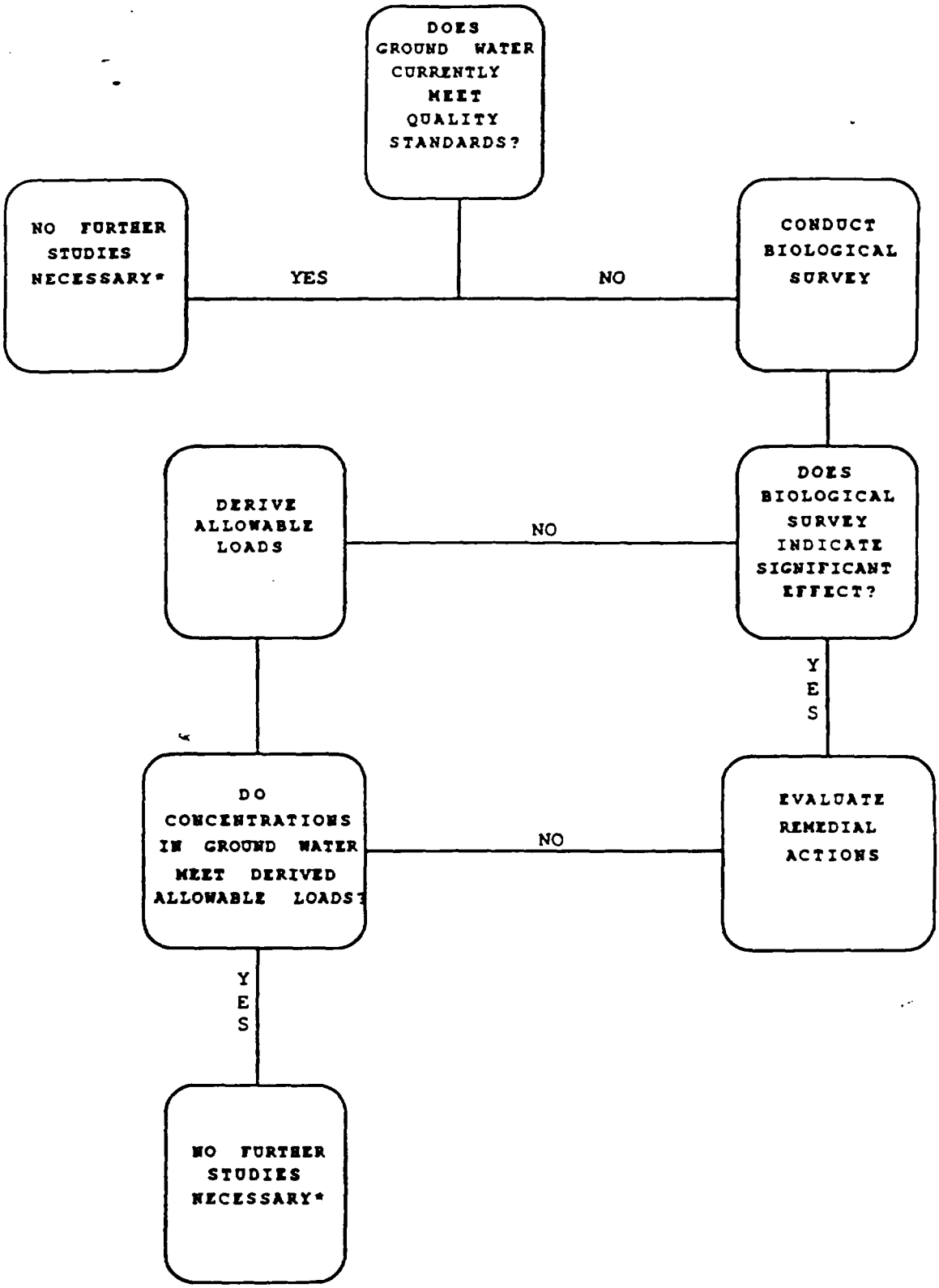
A decision methodology for additional water quality studies and biological survey is presented in Figure 5-1. This decision tree allows an objective assessment of the type of work to be done under various conditions, as well as allowing additional work to proceed in a logical progression of steps. Each step is described below.

Does Ground Water Currently Meet Surface Water Quality Standards?

The results of the sampling of ground water wells will provide an average concentration of site-related contaminants in ground water discharging from the site. These concentrations will be compared to applicable federal and Indiana State water quality standards, where available. If such standards are not available, a risk-based standard will be calculated, based on reasonable scenarios for river use (ingestion of fish, using local catch data and results of the bioaccumulation studies, and partial body contact during recreation). If current levels of site-related

FIGURE 5-1

WATER QUALITY STUDIES DECISION TREE



* Continue monitoring as outlined in Section 4.

compounds in ground water meet these standards, no further action will be necessary; dilution as it occurs may be considered as an additional "safety factor." If current levels of site-related compounds in ground water do not meet surface water quality standards; a biological survey of the river will be conducted.

Biological Survey

The biological survey will consist of species counts and calculation of some measure of diversity upgradient from, downgradient from, and adjacent to the site. If no significant difference is shown, it can be assumed that conditions are not degraded due to site-related discharges, and no further action will be necessary. If a significant degradation due to site-related discharge is shown to occur in the river, remedial measures will be evaluated. If there is no significant degradation due to site-related ground water discharge then allowable additional loads for site-related compounds will be developed as discussed in the following section.

The biologic survey will be limited to the benthic (animals living in or on the river substrate) macroinvertebrates (animals not passing through a 0.5 mm mesh). The benthic macroinvertebrates are important members of the food web and their well-being is reflected in the well-being of higher forms including fish. The macroinvertebrate community is sensitive to stress, and its characteristics serve as tools for detecting environmental variations, including contamination. Because of the limited mobility of benthic organisms and their relatively long life span, the community characteristics are a function of the recent past conditions.

Sampling sites will be determined by the best professional judgement of the senior project biologist to permit comparisons between comparable environments. The abiotic factors that will be considered by the senior biologist include substrate, depth, and current velocity. Each of these three factors does influence the composition of the benthic community. The benthic community collected from a shallow, fine-grained, low velocity environment most likely would be significantly different from that collected from a shallow, high velocity, boulder/gravel riffle area. The three abiotic factors also dictate the type of collection devices to be used, such as Surber nets, grab samplers, kick nets or dredges.

A minimum of five stations will be selected consisting of at least one downgradient, one upgradient and three site-related stations. It is anticipated that all sampling stations will be located on the left shore (facing downstream) of the Mississinewa River to reflect any "sideness" effects along the study area. A minimum of three replicates will be collected at each station for variance related statistical analyses.

Appropriate methods of sample collection, preservation, labeling, identification/enumeration and statistical analysis will be employed based on published U.S. EPA methods (a. USEPA 1973. Biological Field and Laboratory Methods for Measuring the Quality of Surface Waters and Effluents. EPA 670/4-73-001; b. USEPA 1987. Recommended Protocols for Sampling and Analyzing Subtidal Benthic Assemblages in Puget Sound. Region X. Report TC-3991-04).

Prior to the initiation of any biological survey, the Indiana Department of Natural Resources - Division of Fish and Wildlife personnel will be approached to obtain the results of any previous benthic studies in the area as well as for general input/suggestions in conducting the survey.

Calculation of Allowable Loads to River

Allowable additional loads for site-related compounds will be calculated for the discharge of site-related ground water, using methodology discussed in the U.S. EPA Technical Guidance Manual for Performing Waste Load Allocations (EPA-440/4-84-022) and estimates of ground water discharge obtained from initial baseline sampling results. Standards from which allowable loads are back-calculated will consist of both acute and chronic criteria. Chronic criteria will be applied to the expected river concentrations, while acute criteria will be applied to the undiluted ground water discharge. These calculated allowable loads will become the standards for ground water discharge, and subsequent sampling will monitor satisfaction of these criteria. If these criteria are satisfied, no further action is necessary. If these criteria are exceeded, or if standards are not currently met upgradient in the river from the site, remedial actions will be evaluated (Figure 5-1).

SECTION 6

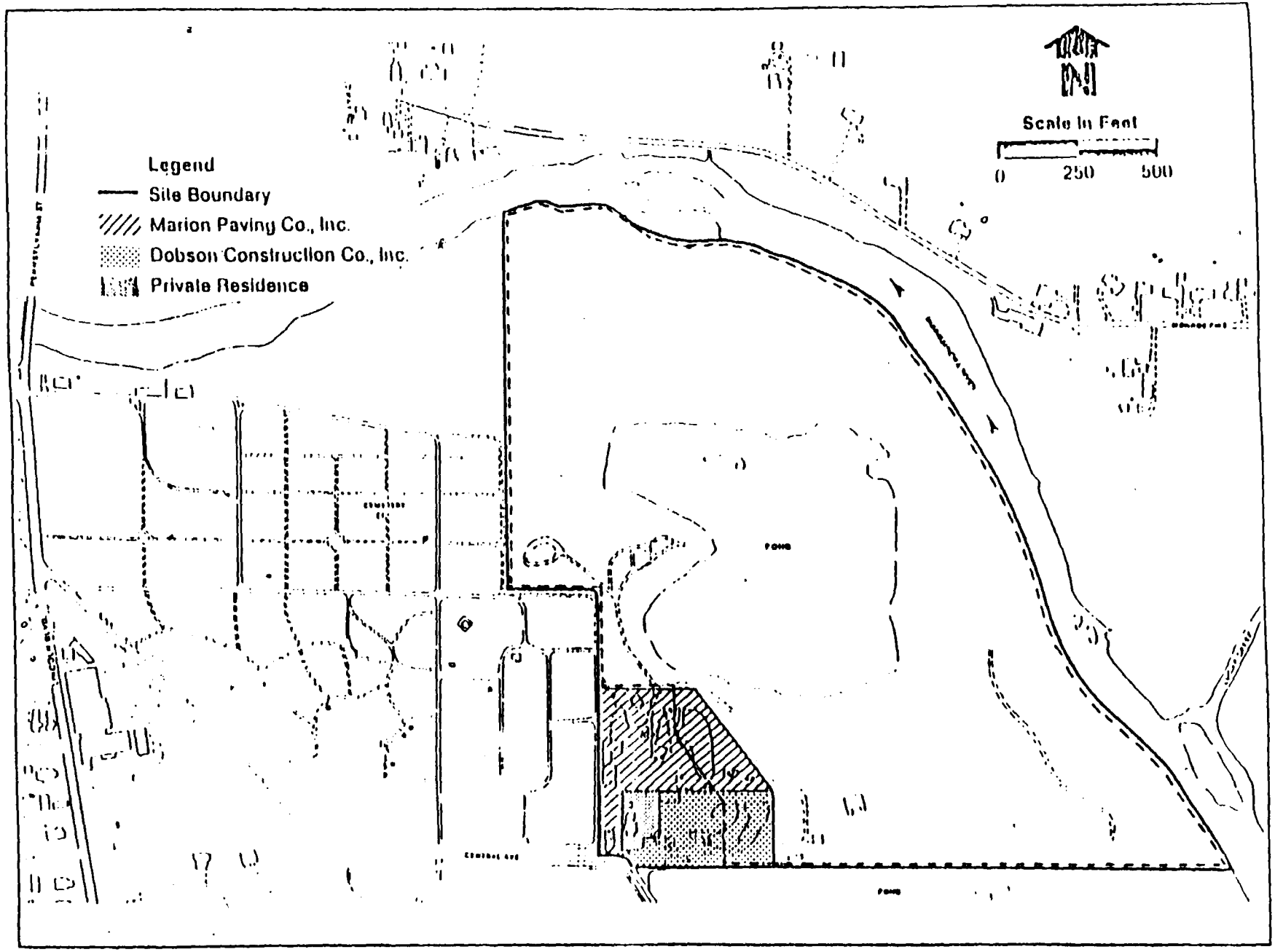
CONCLUSIONS

The elements of the remedy, including ground water monitoring and additional studies, proposed for the Marion (Bragg) Landfill are fully consistent with the requirements of the Record of Decision issued by the EPA and IDEM on 30 September 1987 to the Group. These studies are appropriate to the existing site conditions as determined by EPA-Region V and IDEM and presented in the RI and FS documents made available to the Contractor and the Group. The program is comprehensive and should be more than adequate to continue site monitoring and to determine the potential for site-related adverse impacts on the Mississinewa River, on-site pond, and off-site pond.

Based on the results of these investigations, a recommendation will be made on the necessity for conducting further sampling or investigation, or for modifying the interim remedy to produce a final remedy.

APPENDIX C

MAP OF AREA DELINEATING SITE -- "FACILITY MAP"



Map of Area Showing Site Fence - - - -

APPENDIX D

RESTRICTIVE COVENANT

COVENANT RUNNING WITH LAND

This Agreement is made this 24 day of March, 1989 by Richard Leon Yount and Ruthadel Yount and the Marion-Bragg Generator Group (consisting of Dana Corporation, GenCorp, Inc., General Motors Corporation, Owens-Illinois, Inc., RCA Corporation, and Essex Group, Inc.). Richard Leon Yount and Ruthadel Yount are the owners of a seventy-two acre tract of real property located just outside the southeastern boundary of Marion, Indiana (the "Marion-Bragg Site" or the "Site"), described in Exhibit A. The Marion-Bragg Generator Group and Richard Leon Yount and Ruthadel Yount desire to protect the remedial action to be performed at the Site, pursuant to the attached portions of the draft Consent Decree. Accordingly,

1. Richard Leon Yount and Ruthadel Yount hereby bar any use of the Site in any manner that may threaten the effectiveness, protectiveness, or integrity of the work performed under the attached portions of the draft Consent Decree. This includes (but is not limited to) a bar on the use of groundwater at the Site or the installation of shallow wells at the Site, except that Dobson Construction Company, Inc. may continue to use, during the duration of its tenancy, the well drilled on July 25, 1988.

2. This covenant shall run with the land and shall be binding upon all persons who acquire any interest in the Marion-Bragg Site.

3. Any deed, title, or other instrument of conveyance shall contain notice of this covenant.

4. This covenant and the restrictions under it are granted for the benefit of and shall be enforceable by the Marion-Bragg Generator Group, their successors and assigns.

OWNERS

Date: 3-24-89 Richard Leon Yount

State of Indiana) ss

I hereby certify that on this 24th day of March, 1989, before me, a Notary Public, personally appeared Richard Leon Yount and acknowledged this instrument to be his act.

Teresa A. Poe

My Commission expires:

July 24, 1990

Date: 3-24-89 Ruthadel Yount

State of Indiana) ss

I hereby certify that on this 24th day of March, 1989, before me, a Notary Public, personally appeared Ruthadel Yount and acknowledged this instrument to be her act.

Teresa A. Poe

My Commission expires:

July 24, 1990

1183D

CONSENT

Marion-Bragg Generator Group

Date: 3/13/89

John N. Hanson
Counsel

DISTRICT OF COLUMBIA)
ss

I hereby certify that on this 13th day of March, 1989, before me, a Notary Public, personally appeared John N. Hanson and acknowledged this instrument to be his act.

Elizabeth G Downing

My Commission expires:

July 14, 1989

1183D

EXHIBIT A

(Legal Description of Richard Leon Yount and Ruthadel Yount's Property)

18901 Warranty Deed

THIS INDENTURE WITNESSETH, That RICHARD LEON YOUNT, over the age of eighteen (18) years

of Grant County in the State of Indiana

Convey and Warrant to RICHARD LEON YOUNT and RUTHADEL YOUNT, husband and wife

of Grant County in the State of Indiana

for and in consideration of One Dollar ($1.00) and other valuable considerations

the receipt whereof is hereby acknowledged, the following Real Estate in the State of Indiana, to-wit:

Grant County

Commencing at a point 6.86 chains South of the Northeast corner of Section 17, Township 24 North, Range 8 East (said point being the point of beginning named in a deed from the Trustees of Mississinewa Lodge No. 96 I.O.O.F. to Enos H. Nebeker, Trustee and recorded in Deed Record No. 63, page 377 of the records of Grant County) then West with the North line of the land described in said deed 10.329 chains to a stone, thence North parallel with the East line of 5th and 6th Additions to the I.O.O.F. Cemetery 12.736 chains to a stone, thence West 3.918 chains to a stone, thence North parallel with the East line of said Additions and 3.167 chains East therefrom 17.127 chains to a stone on the bank of the Mississinewa River, thence up said river with the meanderings thereof to a stake in the North line of the lands described in the aforementioned deed, thence West with the said North line 21.045 chains to the place of beginning, containing 72 acres, more or less, and being 7.085 acres out of the North part of the North East Quarter of said Section 17 and 31.12 acres out of the South East corner of the South East Quarter of Section 8 and 20.2 acres out of the South West Fractional Quarter of the South West Quarter of Section 9, and 15.6 acres out of the North West Quarter of Section 16, all in Township 24 North, Range 8 East.

RECEIVED FOR RECORD SEP 20 1979 AT 12 O'CLOCK PM
Recorded in 79-

DULY ENTERED FOR TAXATION SEP 2 1979

IN WITNESS WHEREOF, The said RICHARD LEON YOUNT, over the age of eighteen (18) years

has hereunto set his hand and seal this 19th day of September, 1979.

[Seal]

RICHARD LEON YOUNT [Seal]

[Seal]

STATE OF INDIANA, Grant COUNTY, ss

Before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named RICHARD LEON YOUNT, over the age of eighteen (18) years

who acknowledged the execution of the foregoing Deed to be his voluntary act and deed.

WITNESS my hand and Notarial seal this 19th day of September, 1979.

My commission expires August 9, 1982

Robert L. Milford,
A Resident of Grant County, Indiana

This instrument was prepared by Robert L. Milford, Attorney at Law

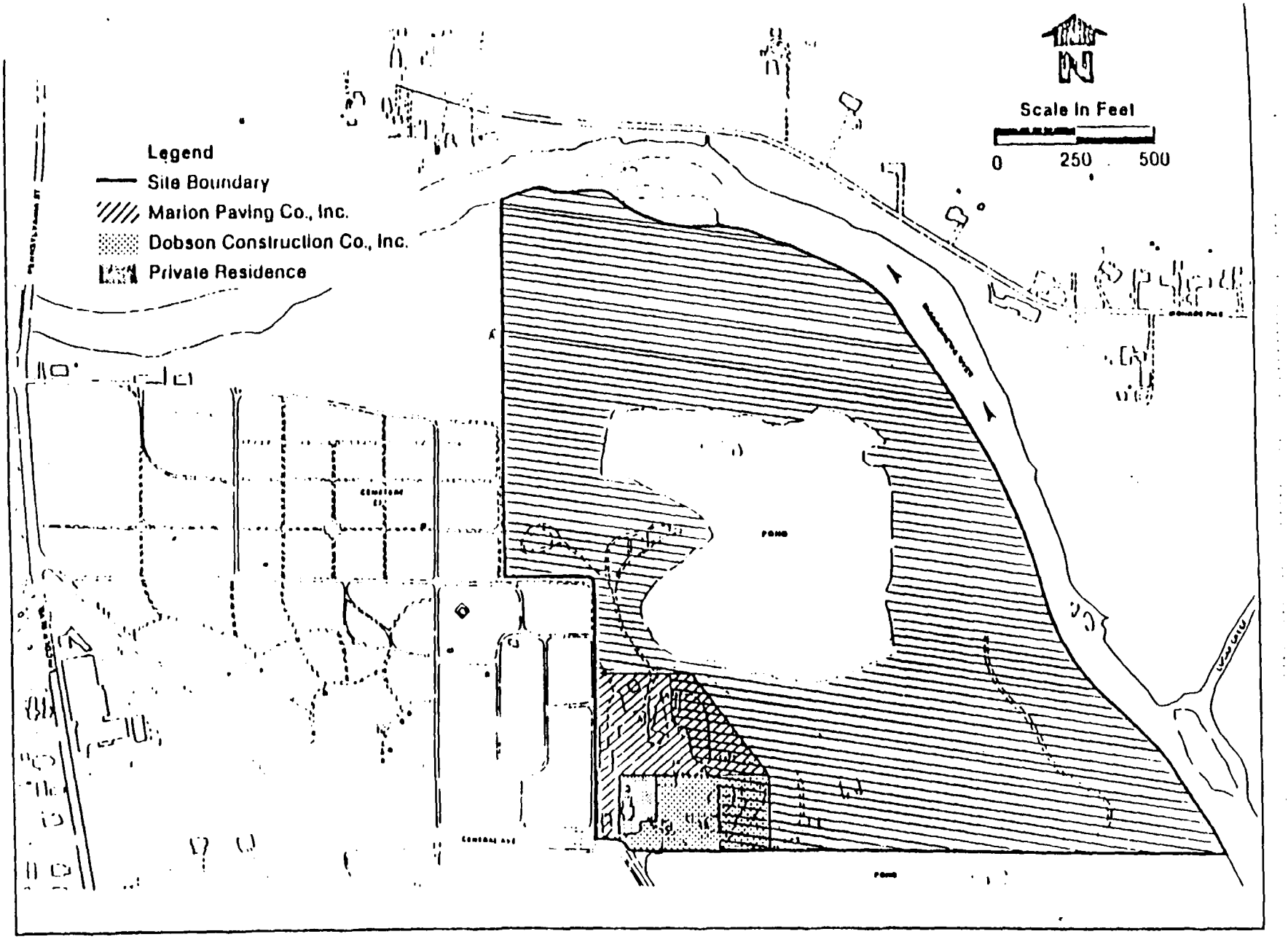
Recorded September 20, 1979 in Deed Micro 79 page 2188 in the Grant County, Indiana, Recorder's Office.

APPENDIX E

RD/RA WORK PLAN

APPENDIX F

MAP OF SITE DELINEATING "CAP" PORTION



Map of Site Showing Landfill Cover

APPENDIX G

PREAUTHORIZATION DECISION DOCUMENT

Re: Marion (Bragg) Dump
Ref: CERCLA 88-001

DECISION DOCUMENT

PREAUTHORIZATION OF A CERCLA §111(a) CLAIM

Marion (Bragg) Dump - Grant County, Indiana

STATEMENT OF AUTHORITY

Section 111 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), 42 U.S.C. §§ 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 ("SARA") authorizes the reimbursement of response costs incurred in carrying out the National Contingency Plan ("NCP"). Section 112 of CERCLA directs the President to establish the forms and procedures for filing claims against the Hazardous Substances Superfund (the Superfund or the Fund). Executive Order 12580 delegates to the Administrator of the Environmental Protection Agency ("EPA") the responsibility for such claims. Executive Order 12580 also delegates to the EPA Administrator the authority to reach settlements pursuant to section 122(b) of CERCLA. The Director, Office of Emergency and Remedial Response ("Director, OERR") is delegated authority to evaluate and make determinations regarding claims (EPA Delegation 14-9, September 13, 1987 and EPA Redelegation R-14-9 "Claims Asserted Against the Fund," May 25, 1988).

BACKGROUND ON THE SITE

On September 30, 1987, Valdas V. Adamkus, EPA Regional Administrator for Region V, signed the Record of Decision ("ROD") for the Marion (Bragg) Dump (hereinafter referred to as the 'Facility"). The ROD identified three operable units: the surface soils and on-site wastes, the ground water, and the on-site pond. The interim remedy addressed the surface soils and on-site wastes. In summary, the remedy provided for regrading and capping (clay-type cap) of the Facility; providing flood control measures; constructing a fence around the Facility to restrict access; providing three private use drinking wells within the deep aquifer and sealing the existing shallow wells; monitoring the ground water to determine the effectiveness of the interim remedy and conducting additional studies of the ground water and surface waters (i.e., the on-site pond); and maintaining the flood control measures, the fence and the cap.

EPA provided members of the public, including the group of potentially responsible parties ("PRPs"), with an opportunity to comment on the remedial investigation and feasibility study ("RI/FS") of the Facility and the preferred alternative for cleanup. On August 7, 1987, EPA, pursuant to section 122 of CERCLA, issued special notice letters to the PRPs. On February 17, 1988, EPA and a group of PRPs referred to as the Marion (Bragg) PRP Group reached agreement in principle. The agreement provided that the Settling Defendants, as defined below, would carry out the remedy

selected by EPA, and that EPA would reimburse the Dana Corporation, General Motors Corporation, DiversiTech General Corporation, Owens-Illinois, Incorporated, RCA Corporation, and United Technologies (hereinafter referred to as the "Generator Defendants") for a portion of their costs of implementing the remedy.

On August 24, 1988, the Generator Defendants, on behalf of the Settling Defendants (as defined in the Consent Decree to include the Generator Defendants, the Owner Defendant, the Operator Defendant, and the City of Marion, Indiana) submitted a formal application for preauthorization as required by section 300.25(d of the NCP (40 CFR Part 300).

A consent decree between EPA and the Settling Defendants is being executed simultaneously with this Decision Document. A Remedial Action Plan, which is appended to the Consent Decree, will be used to implement the remedy selected in the ROD.

FINDINGS

Preauthorization (i.e., EPA's prior approval to submit a claim against the Superfund for necessary response costs incurred as a result of carrying out the NCP) represents the Agency's commitment that if the response action is conducted in accordance with the preauthorization and costs are reasonable and necessary, reimbursement, subject to any maximum amount of money set forth in the preauthorization decision document, will be had from the Superfund. Preauthorization is a discretionary action by the Agency taken on the basis of certain determinations.

EPA has determined, based on its evaluation of relevant documents and the Generator Defendants' application for pre-authorization, pursuant to section 300.25(d) of the NCP, that:

(1) A release or potential release of hazardous substances warranting a response under section 300.68 of the NCP exists at the Marion (Bragg) Dump;

(2) The Settling Defendants have agreed to implement the cost-effective remedy selected by EPA to address the threat posed by the release at the Facility;

(3) The Settling Defendants have demonstrated engineering expertise and a knowledge of the NCP and attendant guidance;

(4) The activities proposed by the Settling Defendants, when supplemented by the terms and conditions contained herein, are consistent with the NCP; and

(5) The Settling Defendants have demonstrated evidence of State cooperation.

In summary, while EPA does not accept as fact all of the statements contained in the Generator Defendants' preauthorization application, the preauthorization application demonstrates a knowledge of relevant NCP provisions and EPA guidance for the conduct of a remedial action. The Consent Decree, the terms and conditions of this preauthorization and, in technical matters, the Remedial Action Plan shall govern the conduct of response activities. In the event of any ambiguity or inconsistency between the Application for Preauthorization and this Preathorization Decision Document with regard to claims against the Fund, the Preauthorization Decision Document and the Consent Decree shall govern. As stated above, in technical matters, the Remedial Action Plan and the Work Plan, when developed by the Settling Defendants and approved by EPA, shall govern the conduct of response activities.

DECISION AND TERMS AND CONDITIONS

I preauthorize the Generator Defendants identified in the Consent Decree (Exhibit 2 hereto) to submit a claim(s) against the Superfund for an amount not to exceed the lesser of one million seven hundred seventy-five thousand dollars ($1,775,000), or twenty five percent (25%) of necessary costs, unless such amount is adjusted by EPA pursuant to paragraph 13 below, incurred for remedial design and remedial action in connection with the remedy set forth in EPA's Record of Decision for the Marion (Bragg) Dump (Exhibit 1 hereto) as specified in the Remedial Action Plan (which is an attachment to the Consent Decree) and the Work Plan when developed by the Defendants and approved by EPA, subject to the terms and conditions set forth below. In the event of any ambiguity or inconsistency between the terms and conditions and the discussion, the terms and conditions shall govern.

1) As required by Section VII.D.2(2) of the Consent Decree the Settling Defendants shall develop and implement a worker health and safety/contingency plan. The worker health and safety/contingency plan shall be consistent with the NCP and shall comply with OSHA Safety and Health Standards: Hazardous Waste Operations and Emergency Response (29 CFR Part 1910.120, 51 Federal Register 45654 et seq., December 19, 1986). As required by Section VII.D.6. of the Consent Decree, the Plan shall be developed in advance of the commencement of field activities.

Discussion:

The Settling Defendants application for preauthorization did not fully address the timing of the plan for worker health and safety. As a term and condition of preauthorization, the Settling Defendants shall develop a worker health and safety/contingency plan, including a plan for air monitoring during excavation and construction activities, which will be reviewed by EPA. The health and safety plan when approved by EPA shall satisfy the requirements of OSHA Safety and Health Standards: Hazardous Waste Operations and Emergency Response (29 CFR Part 1910.120;

51 Federal Register 45654 et seq., December 19, 1986). The Settling Defendants are to implement the plan as approved or as subsequently revised.

2) The Settling Defendants shall develop a remedial design in accordance with the Remedial Action Plan and EPA's Remedial Design and Remedial Action Guidance dated June 1986.

3) The remedial design to be developed by the Settling Defendants shall insure that all actions undertaken by the Settling Defendants shall be undertaken in accordance with the requirements of all applicable State and Federal laws and regulations and all "applicable" or "relevant and appropriate" Federal and State environmental requirements as identified pursuant to the ROD and pursuant to § 121 of CERCLA. In accordance with Section VI.B.2. of the Consent Decree, all activities undertaken by the Settling Defendants off-site shall in addition comply with all required permits, unless an exemption from the requirements of such permits is granted according to law.

4) Ground water monitoring and sampling is included within the scope of work which the Settling Defendants have agreed to undertake. In addition, the Settling Defendants shall conduct such additional surface water studies as may be necessary to determine the protectiveness of this interim remedy.

Discussion:

The ROD provides that the additional studies should be conducted focusing on the toxicity of the surface waters and fish bioassey work for on-site and off-site ponds and the river. These studies shall be conducted as provided under Section VII.D.7.(f) of the Consent Decree and a portion of the costs of these studies shall be eligible for reimbursement from the Fund.

5) Modification of remedial design elements or performance requirements contained in the remedial design report shall require approval by the Director, OERR or his designee.

6) The Settling Defendants shall provide for long-term site management as specified in Section VII.D.7.(g) of the Consent Decree and Section 3 of the City of Marion Settlement Agreement (i.e., operations and maintenance) sufficient to ensure continuing protection of human health and the environment. The costs of long-term monitoring and sampling that will follow construction of the cap is a part of the cost of operations and maintenance and, unlike the monitoring and sampling that is a part of the additional studies addressed in paragraph 4, is not eligible for reimbursement. The Work Plan when developed and approved will differentiate between monitoring and sampling which is a part of operation and maintenance and that associated with the additional studies.

7) The Settling Defendants shall develop and implement for remedial design and remedial action:

a) Procedures which provide adequate public notice of solicitations for offers or bids on contracts. Solicitations must include the evaluation methods and criteria for contractor selection. Section VII.A of the Consent Decree sets forth EPA's right to disapprove the selection of the architect or engineer selected by the Settling Defendants. The same procedures apply to the selection of the construction firm(s).

b) Procedures for procurement transactions which provide maximum open and free competition; do not unduly restrict or eliminate competition; and provide for the award of contracts to the lowest, responsive, responsible bidder, where the selection can be made principally on the basis of price. The Settling Defendants and their contractors shall use free and open competition for supplies, services and construction.

c) Contracts for construction which include a Differing Site Conditions clause equivalent to that found at 40 CFR §33.1030(4).

d) Procedures to settle and satisfactorily resolve, in accordance with sound business judgment and good administrative practice, all contractual and administrative issues arising out of preauthorized actions. The Settling Defendants shall issue invitations for bids or requests for proposal; select contractors; approve subcontractors; manage contracts in a manner to minimize change orders and contractor claims; resolve protests, claims, and other procurement related disputes; and handle subcontracts to assure that work is performed in accordance with terms, conditions and specifications of contracts.

e) A change order management policy and procedure in accordance with EPA's guidance on State Procurement Under Remedial Cooperative Agreements (OSWER Directive 9375.1-5, March 1986).

f) Detailed quality assurance/quality control plans for remedial design activities (e.g., sampling, monitoring, etc.) and construction activities (e.g., sampling, operations, etc.) in accordance with Section X of the Consent Decree.

Discussion:

The detailed quality assurance/quality control plan shall be in accordance with EPA's Contract Lab Protocol.

g) A financial management system that consistently applies generally accepted accounting principles and practices and includes an accurate, current and complete accounting of all financial transactions for the project, complete with supporting documents, and a systematic method to resolve audit findings and recommendations.

8) The Settling Defendants shall provide EPA and its agents with site access as set forth in Section XI of the Consent Decree and shall immediately notify the Agency if they are unable to initiate or complete the preauthorized response action.

9) In submitting claims to the Superfund, the Generator Defendants shall:

a) Document that response activities were preauthorized by EPA;

b) Substantiate all claimed costs through a financial management system as described in paragraph 7(g); and

c) Document that all claimed costs were eligible for reimbursement pursuant to this preauthorization and are reasonable and necessary in accordance with the appropriate Federal cost principles.

Discussion:

See pagargraph 14 for additional references to the Federal cost principles.

10) The Settling Defendants shall maintain all cost documentation and any records relating to their claim for a period of not less than six years from the date on which the final claim has been submitted to the Superfund, and shall provide EPA with access to their records. At the end of the six year period, the Settling Defendants shall notify EPA of the location of all records. The Settling Defendants shall allow EPA the opportunity to take possession of the records before they are destroyed; this requirement is in addition to the record retention requirement located at Section XVI of the Consent Decree.

11) Claims may be submitted against the Superfund only while the Settling Defendants are in compliance with the terms of the Consent Decree and no more frequently than intervals of:

(a) completion of the remedial design (i.e., after the final design review);

(b) completion of the construction portion of the remedial action (i.e., after the final inspection report); and

(c) completion of the remedial action including the additional studies.

12) If the Settling Defendants find it necessary to seek to modify the actions that EPA preauthorized for reasons including the conduct of additional work as provided by Section IX of the Consent Decree, or if it becomes apparent that the project's costs will exceed approved costs, the Settling Defendants may submit to EPA a revised application for preauthorization. The cost of additional work, when approved by EPA and subject to the availability of appropriated funds for CERCLA response actions, shall increase the maximum amount for which the Generator Defendants may submit claims.

Discussion:

EPA has preauthorized the Settling Defendants to submit claims in the amount of the lesser of 25% of the costs of the Remedial Design and Remedial Construction or $1.775 million. The estimated total cost of the remedy varies from that contained in the FS Report and the cost of construction is subject to further refinement. In addition, the estimated total cost does not include certain costs which have not been determined to be necessary (e.g., the leachate collection system, regrading of the river bank). However, the estimated total cost does include the costs of additional studies of surface waters. For these reasons, the Settling Defendants may submit a revised application for preauthorization at such time as the conditions of paragraph 12 are satisfied.

13) Claims shall be submitted to the Administrator, EPA, Washington, D.C., Attention Director, Office of Emergency and Remedial Response. EPA shall provide the appropriate form(s) for such claims.

14) EPA may adjust claims using the facilities and services of private insurance and claims adjusting organizations or Federal personnel. In making a determination whether costs are allowable, the claims adjuster will rely upon the appropriate Federal cost principles (non-profit organizations -- OMB Circular A-122; States and political subdivisions -- OMB Circular A-87; profit making organizations -- 48 CFR Subparts 31.1 and 31.2). Where additional costs are incurred due to acts or omissions of the Settling Defendants, payment of the claim will be adjusted accordingly. EPA may require the Settling Defendants to submit any additional information needed to determine whether the actions taken were reasonable and necessary.

15) At least 60 days before filing a claim against the Fund for the remedial action, the Settling Defendants shall present in writing all claims to any person known to the Settling Defendants who may be liable under section 107 of CERCLA for response

costs incurred by the Settling Defendants. If the first claim was denied by the responsible party or not responded to, and EPA agrees that there is no reason to believe that subsequent claims would be honored by such responsible party, the denial of the first claim, or lack of response, shall be considered denial of every subsequent claim.

16) Payment of any claim from the Fund shall be subject to the Settling Defendants' subrogating to the United States their rights as claimant to the extent to which their response costs are compensated from the Superfund. Further, the Settling Defendants shall cooperate with any cost recovery action which may be initiated by the United States. The Settling Defendants and the Settling Defendants' contractors shall furnish the personnel, services, documents, and materials needed to assist EPA in the collection of evidence to document work performed and costs expended by the Settling Defendants or the Settling Defendants' contractors at the Facility in order to aid in cost recovery efforts. Assistance shall also include providing all requested assistance in the interpretation of evidence and costs and providing requested testimony. All of the Settling Defendants' contracts for implementing the remedy shall include a specific requirement that the contractors agree to provide this cost recovery assistance.

17) Eligible costs:

Eligible costs are those costs incurred, consistent with the NCP, in carrying out the remedial action, subject to the following limitations:

a) Costs may be reimbursed only if incurred after the effective date of this preauthorization;

b) Costs may be reimbursed only for design and construction of the remedy at the Facility as provided herein. Such costs shall not include any of EPA's or the State of Indiana's oversight costs, investigatory costs, or past response costs that were incurred by EPA or the State of Indiana prior to the effective date of the Consent Decree.

c) Costs incurred for long-term operation and maintenance, including the costs of certain monitoring and sampling as described in paragraph 6, are not eligible for reimbursement from the Superfund.

d) Costs incurred for services performed by a person who is listed on the EPA Master List of Debarred, Suspended or Voluntarily Excluded Persons at the time the contract is awarded shall not be eligible for reimbursement unless the Settling Defendants obtain approval from EPA pursuant to 40 CFR Part 32 prior to incurring the obligation.

e) Costs incurred for the payment of contractor claims either through settlement of such claims or an award by a third party may be reimbursed from the Fund to the extent EPA determines that:

(i) the contractor claim arose from work within the scope of the contract at issue and the contract was for activities which were preauthorized;

(ii) the contractor claim is meritorious;

(iii) the contractor claim was not caused by the mismanagement of the Settling Defendants;

(iv) the contractor claim was not caused by the Settling Defendants' vicarious liability for the improper actions of others;

(v) the claimed amount is reasonable and necessary;

(vi) the claim for such costs is filed by the Settling Defendants within 5 years of completion or the preauthorized activities; and

(vii) payment of such a claim will not result in total payments from the Fund in excess of the amount preauthorized.

Discussion:

"Contractor claim" is defined in Exhibit 3 hereto.

f) An award by a third party on a contractor claim should include:

(i) findings of fact;

(ii) conclusions of law;

(iii) allocation of responsibility for each issue;

(iv) basis for the amount of award; and

(v) the rationale for the decision.

g) Interest accrues on amounts due the Generator Defendants pursuant to this agreement where EPA fails to pay the amount within sixty (60) days of EPA's receipt of a completed claim from the Generator Defendants. A completed claim is a demand for a sum certain which includes all documentation required to substantiate the appropriateness of the amounts claimed. Where the Generator Defendants submit a claim which is technically complete but for which EPA requires additional information in order to

evaluate the amount claimed, interest will not accrue on the claim until sixty (60) days after EPA's receipt of the requested additional information. The rate of interest paid on a claim is the rate of interest on investments of the Superfund established by subchapter A of chapter 98 of the Internal Revenue Code of 1954.

18) If any material statement or representation made in the application for preauthorization is false, misleading, misrepresented, or misstated and EPA relied upon such statement in making its decision, the preauthorization by EPA may be withdrawn following written notice to the Generator Defendants. Disputes arising out of EPA's determination to withdraw its preauthorization shall be governed by Section XV of the Consent Decree. Criminal and other penalties may apply (see Exhibit 4).

19) The Superfund is not hereby obligated to reimburse the Generator Defendants for subsequent remedial actions not covered by this preauthorization caused by failure of the original remedy if those actions are necessary as a result of the failure of the Settling Defendants, their employees or agents, or any third party having a contractual relationship with the Settling Defendants to properly perform activities under the Remedial Action Plan, the Work Plan, when approved, and any modification thereto approved by EPA and in conformance with the terms and conditions of this preauthorization decision document. EPA may require the Settling Defendants to submit any additional information needed to determine whether the actions taken were in conformance with the Work Plan and were reasonable and necessary.

20) This preauthorization shall be effective as of the date of execution contingent upon (1) EPA's approval in writing of the performance of those specific response activities to be initiated prior to the date of entry of the Consent Decree, and (2) entry of the Consent Decree by the Court.

Henry L. Longest II
Director,
Office of Emergency and Remedial Response

9/7/82
Date

EXHIBITS

1. EPA Record of Decision for the Marion (Bragg) Dump
2. Consent Decree
3. Definition of Contractor Claim
4. Civil and Criminal Penalties

EXHIBIT 3

DEFINITION OF CONTRACTOR CLAIM

"Contractor claim" means the disputed portion of a written demand or written assertion by any contractor who has contracted with the Settling Defendants pursuant to the Consent Decree to perform any portion of the design and remedial action for the Facility, seeking as a matter of right, the payment of money, adjustment, or interpretation of contract terms, or other relief, arising under or related to a contract, which has been finally rejected or not acted upon by the Settling Defendants and which is subsequently settled by the Settling Defendants or resolved by a Third Party in accordance with the Disputes Clause of the contract document.

EXHIBIT 4

CERCLA PENALTY FOR PRESENTING FRAUDULENT CLAIM

Any person who knowingly gives or causes to be given false information as a part of a claim against the Hazardous Substance Superfund may, upon conviction, be fined in accordance with the applicable provisions of title 18 of the United States Code or imprisoned for not more than 3 years (or not more than 5 years in the case of a second or subsequent conviction), or both. (42 USC 9612 (b)(1).)

CIVIL PENALTY FOR PRESENTING FRAUDULENT CLAIM

The claimant is liable to the United States for a civil penalty of $2,000, and an amount equal to two times the amount of damages sustained by the Government because of the acts of that person, and costs of the civil action. (31 USC 3729 and 3730.)

CRIMINAL PENALTY FOR PRESENTING FRAUDULENT CLAIM OR MAKING FALSE STATEMENTS

The claimant will be charged a maximum fine of not more than $10,000 or be imprisoned for a maximum of 5 years, or both. (See 62 Stat. 698, 749; 18 USC 287, 1001.)

APPENDIX H

CITY OF MARION SETTLEMENT AGREEMENT

SETTLEMENT AGREEMENT

WHEREAS,

A. The City of Marion, Indiana, between 1975 and 1977, contracted with Waste Reduction Systems, Inc. to operate a transfer station (called the Marion Transfer Station) for the purpose of collecting and transferring waste at a seventy-two acre tract of real property located just outside the southeastern boundary of Marion, Indiana (hereinafter the "Marion-Bragg Site").

B. Between 1957 and 1975 various waste materials generated or collected by the City of Marion were transported by the City to the Marion-Bragg Site.

C. Various waste materials generated by Dana Corporation, DiversiTech General, Inc., General Motors Corporation, Owens-Illinois, Inc., RCA Corporation and Essex Group, Inc. (herinafter referred to as the "Marion-Bragg Generator Group") and other companies may have been transported to the Marion-Bragg Site during its period of active operation.

D. The United States of America has asserted claims against the City of Marion, the Marion-Bragg Generator Group, and other companies and individuals under Sections 106 and 107

of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. §§ 9606 and 9607, and Section 7003 of the Resource Conservation and Recovery Act, 42 U.S.C. § 6973, alleging that they are strictly, jointly, and severally liable for (a) all costs incurred and to be incurred in the investigation and cleanup of environmental contamination caused by releases of hazardous substance from the Marion-Bragg Site, and (b) the performance and funding of all removal and remedial action at the Marion-Bragg Site caused by releases of hazardous substances from the Site.

E. The State of Indiana (hereinafter "the State") has asserted claims against the City of Marion, the Marion-Bragg Generator Group and other companies under Section 107 of CERCLA, 42 U.S.C. § 9607, and State Statutes, alleging that they are strictly, jointly, and severally liable for (a) all costs incurred and to be incurred in the investigation and cleanup of environmental contamination caused by releases of hazardous substances from the Marion-Bragg Site, and (b) the performance and funding of all removal and remedial action at the Marion-Bragg Site caused by releases of hazardous substances from the Site.

F. In September 1987, the United States Environmental Protection Agency (EPA) issued a Record of Decision (ROD) specifying the remedial action deemed necessary by the United

States to remedy the environmental conditions in the vicinity of the Marion-Bragg Site.

G. In order to avoid prolonged and costly litigation and to forestall the imminent prospect of government-financed cleanup, the Marion-Bragg Generator Group and others are negotiating a Consent Decree which would require them to pay for a portion of the costs of implementing the remedial action specified in the ROD and more specifically set forth in the Remedial Action Plan (RAP).

H. The Marion-Bragg Generator Group is currently negotiating a proposed Consent Decree with the United States and the State (the most recent draft of which is attached hereto as Exhibit 1 and incorporated herein by reference), which, if executed, will require the City of Marion to provide maintenance of the cap or cover, fencing and flood protection devices described in the Consent Decree and as required by the ROD.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and other good and valuable consideration, the parties hereto agree as follows:

SECTION 1 JOINDER IN PROPOSED CONSENT DECREE

1.1 Upon request by the Marion-Bragg Generator Group, the City of Marion shall execute a Consent Decree that may be

negotiated by the Marion-Bragg Generator Group and others with the United States and the State, provided that:

1.1.1 The Consent Decree is substantially in the form attached hereto; and

1.1.2 The City of Marion's obligations under the Consent Decree will be satisfied solely in accordance with the provisions of Section 3, below.

SECTION 2 CONSENT TO ENFORCEMENT

2.1 The Marion-Bragg Generator Group and the City of Marion shall each have the right to bring suit to enforce this Agreement.

2.2 The Marion-Bragg Generator Group and the City of Marion each irrevocably consent to the personal jurisdiction of the State and Federal Courts of Indiana in connection with any suit that may be brought pursuant to Section 2.1 above.

2.3 The obligations under this Agreement take effect upon the execution of this Agreement and entry by the Court of the Consent Decree referenced in Section 1 of this Agreement, and do not depend upon a suit to enforce the Agreement pursuant to Section 2.2.

2.4 The Marion-Bragg Generator Group and the City of Marion each reserve the right to sue for damages for breach of

obligations under this Agreement and to recover payment for such damages, including attorney's fees to enforce this Agreement.

SECTION 3 OPERATION AND MAINTENANCE COSTS

3.1 The Marion-Bragg Generator Group is obligated under the Consent Decree to design and construct a fence to prevent access to the Site. The City of Marion shall maintain and ensure that this fence is maintained in accordance with the requirements of the Consent Decree for as long as the Consent Decree requires.

3.2 The Marion-Bragg Generator Group is obligated to design and construct in accordance with the Consent Decree a low permeability cap and cover over the Site area. The City of Marion shall, after the construction of that cap, maintain it in accordance with the requirements of the Consent Decree and for as long as is required under the Consent Decree.

3.3 The Marion-Bragg Generator Group is obligated under the Consent Decree to design and construct flood protection measures to protect the cap and cover in all areas of the facility that lie within the hundred year flood plain. The City of Marion shall, in accordance with the Consent Decree, maintain the flood protection measures

constructed by the Marion-Bragg Generator Group for as long as is required under the Consent Decree.

SECTION 4 IRREVOCABLE POWER OF ATTORNEY

4.1 The City of Marion hereby designates and appoints John Fihe, City Attorney, and the Marion Utility Service Board designates and appoints Owen Gilbert, acting Utility Manager, and their successors, as their representative(s), respectively, with full authority to execute on their behalf any or all of the documents that the City of Marion and the Marion Utility Service Board is obligated to execute pursuant to this Agreement.

4.2 The authorization referred to in Section 4.1, above includes, without limitation, the authority to execute the Consent Decree referred to in Section 1, above; the authority to consent to judgment referred to in Section 2, above; the authority to consent to any of the judgments, levies, executions, attachments, or other forms of process referred to in Section 2, above; and the authority to execute any agreements, documents or assignments or other legal documents referred to in Section 3 above.

4.3 The City of Marion irrevocably appoints the representative(s) identified in Section 4.1 as its agents for receipt of service of process in connection with any suit that may be brought against it pursuant to Section 2 of this Agreement.

4.4 The Marion-Bragg Generator Group designates and appoints the law firm of Beveridge & Diamond, P.C., 1333 New Hampshire Avenue, N.W., Suite 900, Washington, D.C. 20036, and any member thereof, and any member of any successor firm (the "Attorneys"), as their attorneys in fact with full authority to execute on their behalf this Agreement with the City of Marion and any other documents it is obligated to execute pursuant to this Agreement.

SECTION 5 RELEASES

5.1 Subject to its right to enforce this Agreement pursuant to Section 2, the Marion-Bragg Generator Group releases the City of Marion from all claims for indemnity or contribution that have or may have for costs incurred in connection with any claims that have been asserted or may be asserted in the future by the United States or the State, or any agencies thereof, arising out of or in any way relating to the Marion-Bragg Site, including without limitation claims for contribution or indemnity that may be asserted by third parties in connection with any such claim by the United States or the State.

5.2 Subject to its right to enforce this Agreement, the City of Marion releases each member of the Marion-Bragg Generator Group from all claims for indemnity or

contribution that it has or may have against each of them in connection with claims that have been asserted or may be asserted in the future by the United States or the State, or any agencies thereof, arising out of or in any way relating to the Marion-Bragg Site, including without limitation claims for contribution or indemnity that may be asserted by third parties in connection with any such claim by the United States or the State of Indiana.

SECTION 6 OTHER PROVISIONS

6.1 Each of the parties hereto warrants that the factual statement made in the recitals of this Agreement are true to the best of that party's knowledge and belief.

6.2 Each party will receive a copy of the original of this Agreement, and such copies shall have the same force and effect as the original.

6.3 Each party has executed this Agreement on behalf of itself, and its affiliates, successors, heirs, and assignees. All such persons or entities are bound by the terms of this Agreement.

6.4 Each party warrants that the individual who signs this Agreement on its behalf has been duly authorized to do so, and each individual who signs this Agreement on behalf of any party certifies that he or she has been duly authorized to do so.

6.5 This Agreement is governed by and shall be construed in accordance with the laws of Indiana.

6.6 This Agreement has been entered into as a good faith settlement of disputed claims. By entering into this Agreement, the parties do not make any admissions as to the validity of any of the claims referred to herein.

6.7 This Agreement may be executed in one or more counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

6.8 The term "City of Marion" as used throughout this Agreement shall be deemed to include the Marion Utility Service Board.

MARION-BRAGG GENERATOR GROUP

By: _____
John N. Hanson
Attorney for Marion-Bragg Generator Group

Date: 1/18/89

CITY OF MARION, INDIANA

By: _____
Attorney for City of Marion

Date: 2-15-89

MARION UTILITY SERVICE BOARD

By: _____
Attorney for Marion Utility Service Board

Date: 2/17/89

0914P

APPENDIX I

RICHARD AND RUTHADEL YOUNT SETTLEMENT AGREEMENT

4/3, 1989

SETTLEMENT AGREEMENT

WHEREAS,

A. Richard and Ruthadel Yount ("Yount") are the owners of a seventy-two acre tract of real property located just outside the southeastern boundary of Marion, Indiana (hereinafter the "Marion-Bragg Site" or "the Site"), which was operated by Delmar Bragg as a waste storage, transfer, and disposal facility from 1957 to 1975.

B. Various waste materials generated by Dana Corporation, DiversiTech General, Inc., General Motors Corporation, Owens-Illinois, Inc., RCA Corporation and Essex Group, Inc. (hereinafter referred to as the "Marion-Bragg Generator Group") and other companies may have been transported to the Marion-Bragg Site during its period of active operation.

C. The United States of America has asserted claims against Yount, the Marion-Bragg Generator Group, and other companies under Section 106 and 107 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. §§ 9606 and 9607, and Section 7003 of the Resource Conservation and Recovery Act, 42 U.S.C. § 6973, alleging that they are strictly, jointly, and severally liable for (a) all costs incurred and to be incurred in the

investigation and cleanup of environmental contamination caused by releases of hazardous substances from the Marion-Bragg Site and (b) the performance and funding of all removal and remedial action at the Marion-Bragg Site caused by releases of hazardous substances from the Site.

D. The State of Indiana (hereinafter "the State") has asserted claims against Yount, the Marion-Bragg Generator Group and other companies under Section 107 of CERCLA, 42 U.S.C. § 9607, and State Statutes, alleging that they are strictly, jointly, and severally liable for (a) all costs incurred and to be incurred in the investigation and cleanup of environmental contamination caused by releases of hazardous substances from the Marion-Bragg Site and (b) the performance and funding of all removal and remedial action at the Marion-Bragg Site caused by releases of hazardous substances from the Site.

E. In September, 1987, the United States Environmental Protection Agency ("EPA") issued a Record of Decision ("ROD") specifying the remedial action deemed necessary by the United States to remedy the environmental conditions in the vicinity of the Marion-Bragg Site.

F. In order to avoid prolonged and costly l. gation and to forestall the imminent prospect of government-financed cleanup, the Marion-Bragg Generator Group and others are negotiating a Consent Decree which would require th em to pay for a portion of the cost of implementing the remedial action

specified in the ROD and more specifically set forth in the Remedial Action Plan (RAP).

G. The Marion-Bragg Generator Group is currently negotiating a proposed Consent Decree with the United States and the State (the most recent draft of which is incorporated herein by reference), which, if executed, will require Yount, the Marion-Bragg Generator Group, and other signatories (a) to pay for the cost of implementing all remaining remedial action required by the ROD, and (b) to pay costs that will be incurred by the United States and the State during oversight and administration of the proposed Consent Decree.

H. Yount now leases three separate pieces of land on the Marion-Bragg Site. One tenant is Marion Paving. It generates waste and liquids onto the Site which will interfere with cleanup operations. Another tenant resides in a dwelling at the entrance of the Site. Her presence will interfere with cleanup activities. The third tenant is Dobson Construction Company (Dobson), which by its presence may inhibit and interfere with efficient response actions.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and other good and valuable consideration, the parties hereto agree as follows:

SECTION 1 JOINDER IN PROPOSED CONSENT DECREE

1.1 Upon request by the Marion-Bragg Generator Group, Yount shall execute any Consent Decree that may be negotiated by the Marion-Bragg Generator Group and others with the United States and the State, provided that:

1.1.1 The Consent Decree is substantially in the form referenced herein; and

1.1.2 Yount's obligations under the Consent Decree will be satisfied solely in accordance with the provisions of Section 3, below.

SECTION 2 CONSENT TO ENFORCEMENT

2.1 The Marion-Bragg Generator Group and Yount shall have the right to bring suit to enforce this Agreement.

2.2 The Marion-Bragg Generator Group and Yount irrevocably consent to the personal jurisdiction of the State and Federal Courts of Indiana in connection with any suit that may be brought pursuant to Section 2.1 above.

2.3 The obligations under this Agreement take effect upon the execution of this Agreement and entry by the Court of the Consent Decree referenced in Section 1 of this Agreement.

2.4 The Marion-Bragg Generator Group reserves the right to sue Yount for damages for breach of obligations under this Agreement and to recover payment for such damages and attorney's fees expended by the Group to enforce this Order, from any assets Yount may have.

SECTION 3 COOPERATION AND SITE ACCESS

3.1 Yount shall cooperate in good faith with the Marion-Bragg Generator Group and their authorized representative, contractors and consultants, and with any state, federal, or local authority involved in implementing any remedial action at the Marion-Bragg Site to assure that remedial action is completed in a timely manner. By way of illustration, and not by way of limitation, Yount shall cooperate in timely making and signing applications for any permits required for remedial action at the Marion-Bragg Site and in providing such information as may be required.

3.2 Yount agrees that the United States, the State, the Marion-Bragg Generator Group and their authorized representatiave, constractors, and consultants may enter the Marion-Bragg Site and have such easements over the property as may be necessary to implement any remedial action at the Marion-Bragg Site. This right of entry and access shall include, without limitation and by way of example only, access for purposes of excavation, surface cleanup, the removal of structures, aeration of soils, installation, operation and maintenance of groundwater extraction and treatment systems, and groundwater and surface water monitoring.

3.3 Yount shall not convey title, easement or other interest in the Marion-Bragg Site without a provision permitting

the construction and continued operation and maintenance of monitoring and pumping wells, a groundwater extraction and treatment system and/or any other facilities and work done pursuant to any remedial action, and all such conveyances of title, grants of easements or other conveyances of any interest shall contain a covenant to permit such facilities and work. At least 90 days prior to any conveyance, Yount shall notify the Marion-Bragg Generator Group, the United States, and the State as provided in the Consent Decree by registered mail of his intent to convey any interest in the property, and of the provisions made permitting the construction and continued operation and maintenance of any remedial action.

3.4 Yount shall also obtain in conjunction with any conveyance a voluntary deed restriction prohibiting the use of groundwater or the installation of wells at the Marion-Bragg Site.

3.5 Yount shall, and the Marion-Bragg Generator Group at their option may, file a copy of this Agreement and any Consent Judgment or Decree or Court Order affecting the Marion-Bragg Site for recording in the appropriate Registry of Deeds in Indiana as a lien and/or encumbrance on the Marion-Bragg Site.

3.6 Yount shall terminate the leases of the present tenants at the Site, effective no later than March 31, 1989, and agrees not to lease any portion of the Site or renew any

leases on any portion of the Site until all response activities are satisfactorily completed, as required by EPA and the State of Indiana.

3.7 Yount shall terminate Dobson's lease as soon as possible, in accordance with the terms of the lease. This obligation shall include, but not be limited to, the exercise of any rights of termination in the lease, e.g., for violation of any covenants or conditions of the lease. Yount shall not renew the lease with Dobson.

3.8 Yount shall further assure that Dobson does not hinder, interfer with, or damage in any way the Work (as defined in the Consent Decree) or the Remedial Action undertaken by the Marion-Bragg Generator Group at the Site. This obligation shall include, but not be limited to, assuring that Dobson's waste disposal practices could not result in the presence of any hazardous constituents at the Site.

3.9 The restrictions and obligations set forth herein shall run with the land and shall be binding upon all persons who acquire any interest in the Marion-Bragg Site. In addition, Yount shall promptly provide notice to the Marion-Bragg Generator Group, the United States, and the State of any actual or expected conveyance of any interest in any property not part of the Marion-Bragg Site but used to implement any remedial action, to the extent such conveyance is within Yount's knowledge.

SECTION 4 IRREVOCABLE POWER OF ATTORNEY

4.1 Yount hereby irrevocably appoints the law firm of Milford & Glickfield, any member thereof, and any member of any successor firm (the "Attorneys"), as his attorneys in fact with full authority to execute on his behalf any or all of the documents that Yount is obligated to execute pursuant to this Agreement.

4.2 The authorization referred to in Section 4.1, above includes, without limitation, the authority to execute the Consent Decree referred to in Section 1, above; the authority to consent to judgment referred to in Section 2, above; the authority to consent to any of the judgments, levies, executions, attachments, or other forms of process referred to in Section 2, above; and the authority to execute any agreements, documents or assignments or other legal documents referred to in Section 3, above.

4.3 Yount irrevocably appoints the Attorneys identified in Section 4.1 as his agents for receipt of service of process in connection with any suit that may be brought against him pursuant to Section 2 of this Agreement.

4.4 The Marion-Bragg Generator Group designates and appoints the law firm of Beveridge & Diamond, P.C., 1333 New Hampshire Avenue, N.W., Suite 900, Washington, D.C. 20036, and any member thereof, and any member of any successor firm (the "Attorneys"), as their attorneys in

fact with full authority to execute on their behalf this Agreement with Yount and any other documents Yount is obligated to execute pursuant to this Agreement.

SECTION 5 RELEASES

5.1 Subject to their right to enforce this Agreement pursuant to Section 2, the Marion-Bragg Generator Group releases Yount from all claims for indemnity or contribution that they have or may have against him for costs incurred in connection with any claims that have been asserted or may be asserted in the future by the United States or the State, or any agencies thereof, arising out of or in any way relating to matters covered by the Consent Decree concerning the Marion-Bragg Site, including without limitation claims for contribution or indemnity that may be asserted by third parties in connection with any such claim by the United States or the State.

5.2 Subject to his right to enforce this Agreement, Yount releases each of the Marion-Bragg Generator Group from all claims for indemnity or contribution that he has or may have against each of them in connection with claims that have been asserted or may be asserted in the future by the United States or the State, or any agencies thereof, arising out of or in any way relating to matters covered by the Consent Decree concerning the Marion-Bragg Site, including without limitation claims for contribution or indemnity that may be asserted by third

parties in connection with any such claim by the United States or the State of Indiana.

SECTION 6 OTHER PROVISIONS

6.1 Each of the parties hereto warrants that the factual statement made in the recitals of this Agreement are true to the best of that party's knowledge and belief.

6.2 Each party will receive a copy of the original of this Agreement, and such copies shall have the same force and effect as the original.

6.3 Each party has executed this Agreement on behalf of itself, and its affiliates, successors, heirs, and assigns. All such persons or entities are bound by the terms of this Agreement.

6.4 Each party warrants that the individual who signs this Agreement on its behalf has been duly authorized to do so, and each individual who signs this Agreement on behalf of any party certifies that he or she has been duly authorized to do so.

6.5 This Agreement is governed by and shall be construed in accordance with the laws of Indiana.

6.6 This Agreement has been entered into as a good faith settlement of disputed claims. By entering into this Agreement, the parties do not make any admissions as to the validity of any of the claims referred to herein.

6.7 This Agreement may be executed in one or more counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

MARION-BRAGG GENERATOR GROUP

By: _____
John N. Hanson
Attorney for Marion-Bragg Generator Group

Date: 4/3/89

RICHARD LEON YOUNT
RUTHADEL YOUNT

By: _____

By: _____

Date: 3-24-89

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